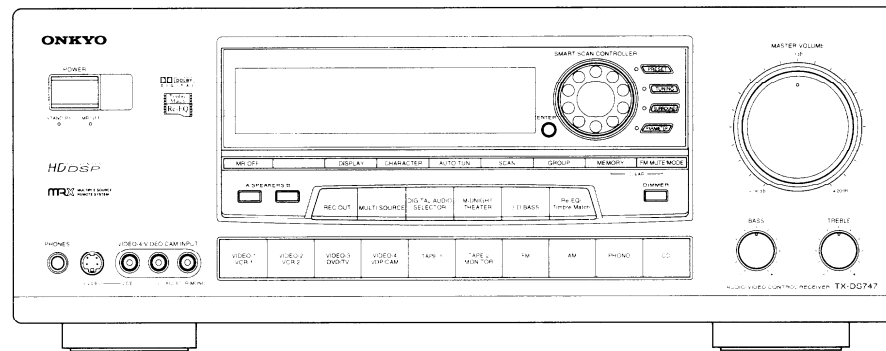


TX-DS747

Audio Video Control Receiver

Instruction Manual



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Thank you for purchasing the Onkyo Audio Video Control Receiver.

Please read this manual thoroughly before making connections and turning on the power.

Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new Audio Video Control Receiver. Please retain this manual for future reference.

Features

Amplifier Features


- **90 Watts per channel into 8 ohms at 0.08% THD, 20-20 kHz (stereo), 80 Watts × 3 plus 40 watts per surround speaker (surround modes) FTC (U.S. & Canadian models)**
- **105 Watts per channel into 6 ohms at 0.1% THD, 20-20 kHz (stereo) FTC, 100 Watts × 3 plus 50 watts per surround speaker (surround modes) FTC (U.S. & Canadian models)**
- **110 Watts per channel into 6 ohms, 1 kHz (stereo) DIN, 95 Watts × 3 plus 50 watts per surround speaker (surround modes) DIN (European & Asian models)**
- Powerful high-current, low-impedance-drive amplifiers for all 5 channels
- Low negative feedback, wideband circuitry
- 18-Bit Delta Sigma D/A and AD converters for greater precision
- Noiseless auto-switched cooling fan
- 3-D Bass button to enhance low-level frequencies

Audio/Video Features

- Built-in Dolby* Digital AC-3 decoder
- Digital Optical/Coaxial Inputs for DVD player
- Digital AC-3 RF Input for laserdisc players with AC-3 RF output (European & Asian models only)
- Costly Motorola 24-Bit Symphony DSP56009 and DSP56004 DSPs for better signal-to-noise ratio (107 dB SNR) and faster DSP (more MIPS)
- Lucasfilm Cinema Re-EQ and Timbre Matching
- 12 DSP Modes which include Dolby Digital AC-3, Dolby Pro Logic and Onkyo's High Definition Action, Drama and Musical modes
- IPM— Intelligent Power Management for switching on entire home theater with TV power button
- Built-in video Y-C Mixing circuitry to provide better picture quality on monitors without S-Video outputs
- Onscreen displays in 7 colors, with Superimpose mode for easy reading, and user-selected graphic positioning (European and Asian models: NTSC/PAL format compatible)
- Midnight Theater mode for late-night, low-level listening
- Pre Out terminals for external amplifiers (front L/R, center, surround L/R, subwoofers)
- Adjustable digital delay for optimum sound in various room sizes and shapes

Tuner Features

- Rotary Smart Scan Controller to quickly and easily find/set stations and surround parameters
- RDS (European models only) with PS, PTY, RT, TP
- 40 FM/AM random presets
- 4 Group presets (10 stations each)
- 8-Character input for preset naming

*Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", "AC-3", "Pro Logic" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation. Copyright 1992 Dolby Laboratories, Inc. All rights reserved.

FOR U.S. MODEL

Note to CATV system installer:

- This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

FCC Information for User

CAUTION:

Changes or modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between other equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FOR CANADIAN MODEL POUR LE MODELE CANADIEN

- For models having a power cord with a polarized plug:

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

- THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS B LIMITS FOR RADIO NOISE EMISSION FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATIONS OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

- Sur les modèles dont la fiche est polarisée:

ATTENTION: POUR ÉVITER LES CHOCs ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

- L'INTERFÉRENCE RADIO ÉLECTRIQUE GÉNÉRÉE PAR CET APPAREIL NUMÉRIQUE DE TYPE B NE DÉPASSE PAS LES LIMITES ÉNONCÉES DANS LE RÈGLEMENT SUR LES PERTURBATIONS RADIO ÉLECTRIQUES, SECTION APPAREIL NUMÉRIQUE, DU MINISTÈRE DES COMMUNICATIONS.

Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.

The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.




The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Important Safeguards

1. **Read Instructions** – All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and use instructions should be followed.
5. **Water and Moisture** – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Carts and Stands** – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

PORTABLE CART WARNING

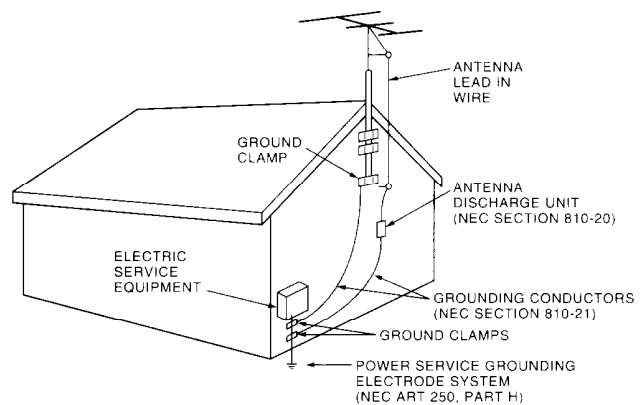


S3125A

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
7. **Wall or Ceiling Mounting** – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or if placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings, there should be free space of at least 20 cm (8 in.) and an opening behind the appliance.
9. **Heat** – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Polarization** – If the appliance is provided with a polarized plug having one blade wider than the other, please read the following information:
The polarization of the plug is a safety feature. The polarized plug will only fit the outlet one way. If the plug does not fit fully into the outlet, try reversing it. If there is still trouble, the user should seek the services of a qualified electrician. Under no circumstances should the user attempt to defeat the polarization of the plug.
12. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, especially near plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** – The appliance should be cleaned only as recommended by the manufacturer.

14. **Power Lines** – An outdoor antenna should be located away from power lines.
15. **Nonuse Periods** – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
16. **Object and Liquid Entry** – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
17. **Damage Requiring Service** – The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
18. **Servicing** – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
19. **Outdoor Antenna Grounding** – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.

FIGURE 1:
EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE



NEC – NATIONAL ELECTRICAL CODE

S2898A

Precautions

1. Warranty Claim

You can find the serial number on the rear panel of this unit. In case of warranty claim, please report this number.

2. Recording Copyright

Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

3. AC Fuse

The fuse is located inside the chassis and is not user-serviceable. If power does not come on, contact your Onkyo authorized service station.

4. Care

From time to time you should wipe the front and rear panels and the cabinet with a soft cloth. For heavier dirt, dampen a soft cloth in a weak solution of mild detergent and water, wring it out dry, and wipe off the dirt. Following this, dry immediately with a clean cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since these could damage the finish or remove the panel lettering.

5. Power

WARNING

BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

Some models are designed for use only with the power supply voltage of the region where they are sold.

European and Australian models:	AC 230V, 50Hz
U.S. and Canadian models:	AC 120V, 60Hz
Worldwide model:	AC 220-230V/120V switchable, 50/60Hz

Turning off the power switch does not shut off the power completely. So the power cord should be removed from the AC outlet when the unit is not used for a prolonged time.

ATTENTION FOR BRITISH MODEL

Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.

• IMPORTANT

The wires in the mains lead are coloured in accordance with the following code:

- Blue : Neutral
- Brown : Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

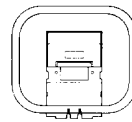
• IMPORTANT

A 5 amp fuse is fitted in this plug. Should the fuse need to be replaced, please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark or the BSI mark on the body of the fuse.

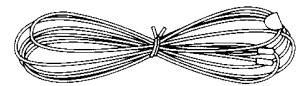
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If in any doubt, please consult a qualified electrician.

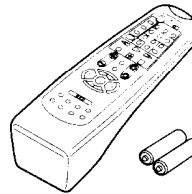
Supplied accessories



1 AM loop antenna

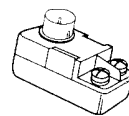


1 T-shaped FM antenna

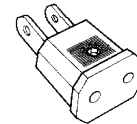


- 1 Remote controller
- 2 Batteries (size AA, R6, or UM-3)

The following accessories are only available for worldwide models.



1 75/300 ohm antenna adaptor



1 CV plug (Shape may vary according to the area where purchased.)

Declaration of Conformity

We, ONKYO EUROPE
ELECTRONICS GMBH
INDUSTRIESTRASSE 18/20
82110 GERMERING,
GERMANY



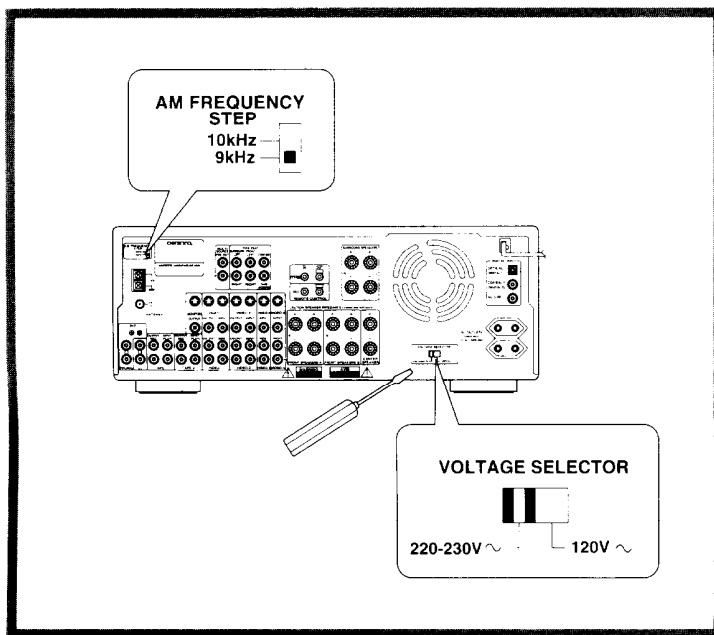
declare in own responsibility, that the ONKYO product described in this instruction manual is in compliance with the corresponding technical standards such as EN55013, EN55020, EN60555-2, -3 and EN60065

GERMERING, GERMANY

H. YAMAZOE

ONKYO EUROPE ELECTRONICS GMBH

Before operating this unit



Setting the AM tuning step frequency (Worldwide models only)

Worldwide models are equipped with a switch that controls the AM band tuning steps. Please set this switch to match the AM band tuning step frequency in your area.

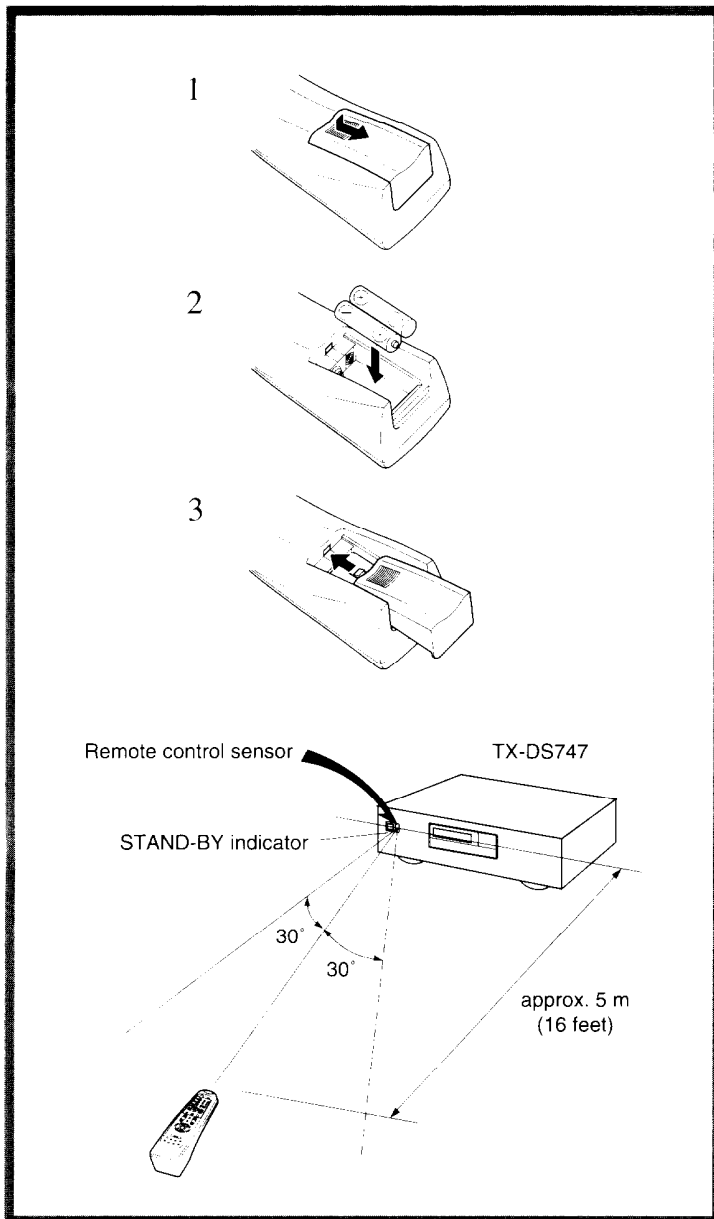
U.S.A. and Canada : 10kHz

Other areas : 9kHz

Setting the Voltage selector (Worldwide models only)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit.

1. Determine the proper voltage for your area: 220-230V or 120V.
2. If the preset voltage is not correct for your area, insert a screwdriver into the groove in the switch. Slide the switch all the way to the right (120V) or to the left (220-230V), whichever is appropriate.



Installing the batteries

1. Remove the battery compartment cover by pressing and sliding it out.
2. Insert two AA (R6- or UM-3)-size batteries into the battery compartment. Carefully follow the polarity diagram (positive (+) and negative (-) symbols) inside the battery compartment.
3. After batteries are installed and seated correctly, replace the compartment cover.

- If the battery voltage is low, the indicator on the remote controller will not flash when you press any button on the controller.

Remove low-voltage batteries immediately to avoid damage due to corrosion. Never mix old and new batteries.

- The learned codes are retained, even when the batteries are replaced.

They may be lost, however, if battery replacement is not completed within one hour. In this case, the unit must learn the codes again.

- The manganese batteries supplied with this unit have a service life of approximately six months, depending on the frequency of use.

- Use spare batteries of the type specified in the table below.

Type	Voltage	Size
Manganese or Alkaline	1.5V	AA, R6 (UM-3) or LR6 (AM-3)

We recommend that long-life AA (LR6 or AM-3) size alkaline batteries be used.

Using the remote controller

The STAND-BY indicator lights up when the unit receives a signal from the remote controller.

The following information will help you get optimal use from the remote controller.

- Place this receiver away from direct bright light, which could prevent proper operation of the remote control.
- Make sure audio rack doors do not have tinted glass. Placing the receiver behind such a door may prevent proper remote controller operation.
- Using other remote controllers along with the receiver's remote controller in the same room may cause interference.

Introduction

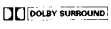
Surround System

Since the TX-DS747 is equipped with front, center and Surround amplifiers, Dolby Digital, Dolby Pro Logic, Hall, Live, Arena and Stadium Surround effects can be produced. You can enjoy the feeling of a movie theater, concert hall, or ballpark in your own living room.

DOLBY PRO LOGIC Surround

Many motion pictures produced have been released in the 4-channel "Dolby Stereo" sound, with music, dialogue, and panned effects coming from the 3-channel front soundstage, and Surround effects and ambience emanating from the sides and rear of the theater.

The motion picture masters are used for production of stereo VHS, VHS-Hi-Fi, Beta Hi-Fi, and stereo laser discs that you can buy or rent at your video store.

Video tapes and laser discs bearing the  trademark or corresponding DVDs enable you to recreate in your own living room the experience of watching a movie in a top quality theater.

Dolby Digital (AC-3)


Dolby Digital (AC-3) is a new-generation digital audio format for multi-channel Surround audio. With this digital audio format, you can create a five full-range channel system that is a developed version of the conventional Surround system (left, center, right, and Surround channel).

Adding to its five full-range channels, Dolby Digital (AC-3) supports an LFE (low frequency effect) channel, which is used solely for low frequency sounds independent of the other channels.

Dolby Digital (AC-3) is sometimes referred to as a "5.1" channel format since this LFE channel is indicated as 0.1.

This fully discrete 5.1 channel Dolby Digital (AC-3) can reproduce the sound of a wide and dynamic range, transforming your room into a home theater.

Dolby Digital (AC-3) technology is implemented in such media as laser discs, DVDs (digital video discs), CATV (cable television), DBS (direct broadcasting satellite).

By using CATV, video disc players with an AC-3RF output for Dolby Digital (AC-3) digitally encoded discs, or the proper equipment for the playback of laser discs bearing the  trademark.

ACTION, DRAMA, and MUSICAL Surround

These three movie genre modes use Dolby Digital or Dolby Pro Logic Surround decoding in addition to Onkyo processing to enhance the best quality of the source.

DIGITAL or PRO LOGIC ACTION:

For software that emphasizes the special effects.

DIGITAL or PRO LOGIC DRAMA:

For software that emphasizes the dialog.

DIGITAL or PRO LOGIC MUSICAL:

For software that emphasizes the music.

HALL Surround

This mode is especially suitable for media that already has a substantial amount of reverb sound, such as classical music, since it simulates the atmosphere of a concert hall.

LIVE Surround

This mode reproduces the feeling of a live performance.

ARENA Surround

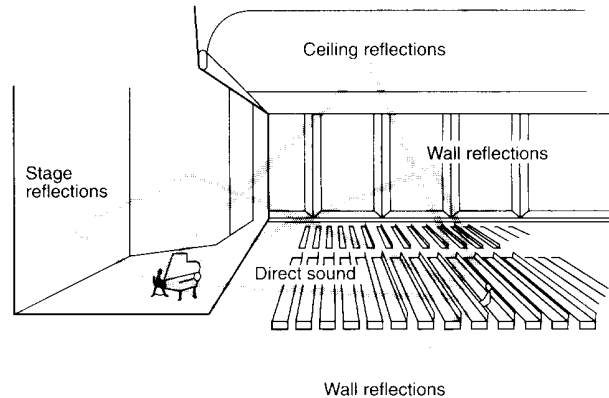
This mode recreates the mood of listening to a concert in a domed stadium.

STADIUM Surround

This mode is best when watching a live sporting event since it removes the announcer's voice, simulating the feel of being in a stadium.

DSP (Digital Signal Processor)

The DSP converts the musical signal into digital form and produces reflected sound from the digital signal. This is applied to the musical signal to yield an effect approaching that of a live performance.



NOTES:

- The concert hall effect is produced from the reflections and reverberations contained in the original recording. These are converted into reflected sound that is reproduced from four directions. Thus, in some cases an unnatural impression can be conveyed if there are too few reflections in the recording or if the effects in the original recording were produced artificially.
- The concert hall effect is not merely an artificial reverberation unit, but a sophisticated effect that spreads existing reverberation around.

Multi-Room Remote System (MRX)

Using the Multi-Room Remote System equipment, you can operate all components connected to the TX-DS747 from either the main room or the sub-room. (Refer to pages 20 and 21 for more details).

The following equipment (sold separately) is essential for using the Onkyo Multi-Room System:

USA and Canada

- * Onkyo's Multi-Room System kits HKT-600, HKT-700 (IR Remote Controller Extension System) and
- * Xantech's Multi-Room System

Other areas

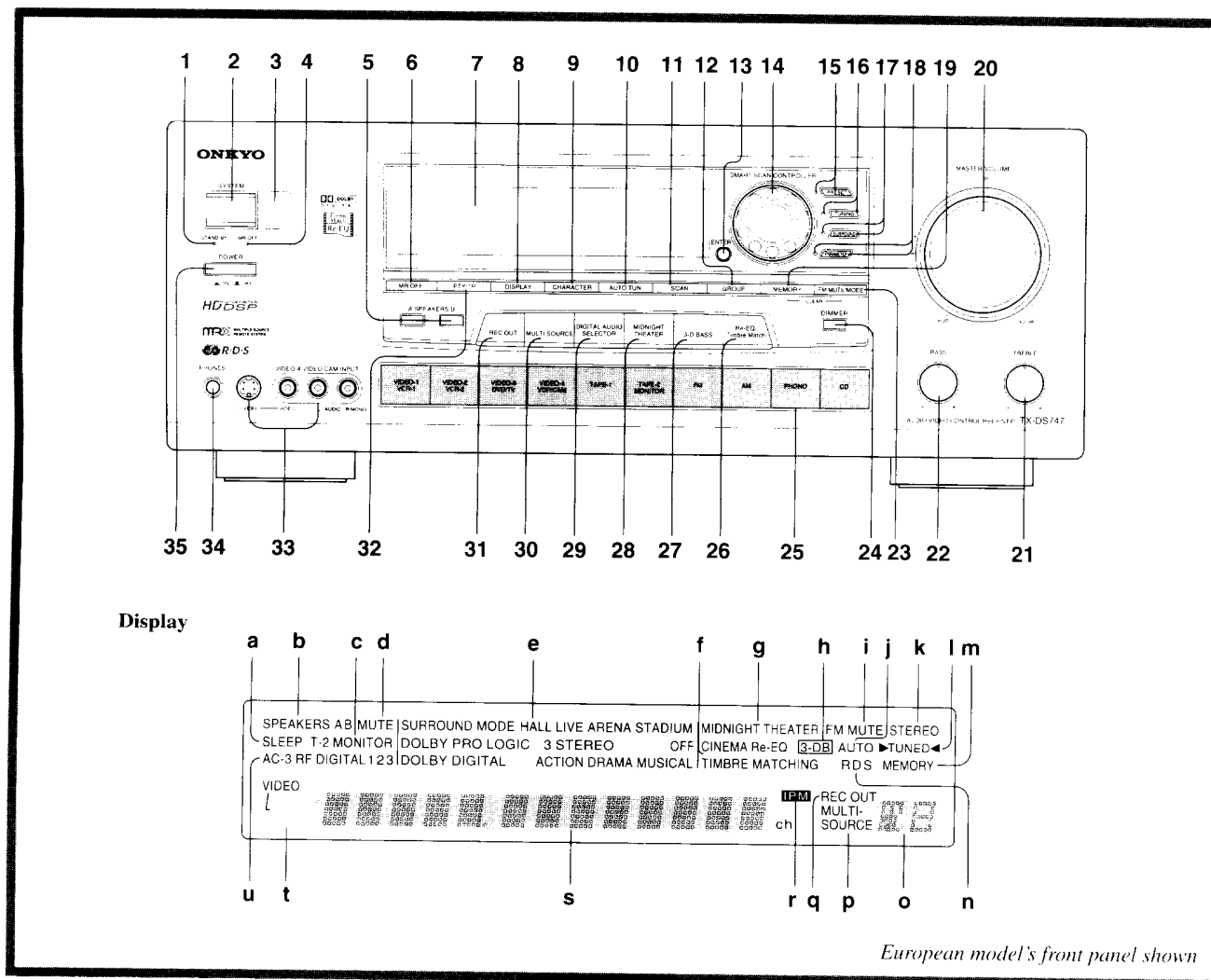
- * Sensor Unit: Model No. HR-10
- * Remote Emitter: Model No. HE-50 (AC)
- * Remote Emitter Head: Model No. HE-10

The following secondary remote controller can be used to operate the system from the sub-room:

- * Secondary Remote Controller for Multi-Room Remote System: Model No. RC-MR1H

Consult your nearest Onkyo service center when replacing your Onkyo Multi-Room System with a Xantech Multi-Room System.

Control positions and names



Front panel

For more information about buttons or knobs, refer to the pages listed in the brackets ([]) below.

1. STAND-BY indicator [5, 22]
2. POWER (or SYSTEM) button [22]
3. Remote control sensor [5, 11]
4. MR OFF indicator [23]
5. SPEAKERS A/B selector buttons [27, 28, 29, 31]
6. MR OFF button (Multi-Room Remote System ON/OFF) [23]
7. Display (Please refer to the "Display" section.)
8. DISPLAY button [37, 38]
9. CHARACTER button [38]
10. AUTO TUNING button [32]
11. SCAN button [34, 37]
12. GROUP button [33, 34]
13. ENTER button [27, 28, 33, 38, 44, 47]
14. SMART SCAN CONTROLLER jog dial [27, 28, 32, 33, 34, 37, 38, 44, 47]
15. PRESET button and indicator [34]
16. TUNING button and indicator [32, 37]
17. SURROUND button and indicator [44]

18. PARAMETER button and indicator [27, 28, 44, 47]
19. MEMORY button [24, 33, 38]
20. MASTER VOLUME control knob and indicator [29, 31]
21. TREBLE control knob [29, 31]
22. BASS control knob [29, 31]
23. FM MUTE/MODE button [32, 33, 38]
24. DIMMER button [31]
25. Input selector buttons [24, 29, 32, 34, 40, 41, 42, 43]
26. Re-EQ/Timbre Matching button [46]
27. 3-D BASS button [29, 31]
28. MIDNIGHT THEATER button [46]
29. DIGITAL AUDIO SELECTOR button [14, 29]
30. MULTI SOURCE button [23]
31. REC OUT button [40, 41]
32. PTY/TP (RDS) button [37] (European model only)
33. VIDEO-4/VIDEO CAM INPUT connectors [13]
34. PHONES jack [31]
35. POWER button [22] (Other than U.S. and Canadian models only)

Display

If a protective film on the surface of the display makes it difficult to read the display, remove the protective film.

- a. Sleep indicator
- b. Speakers A/B selector indicator
- c. Tape-2 Monitor indicator
- d. Audio Muting indicator
- e. Surround indicators
- f. Cinema Re-Equalizer/Timbre Matching indicator
- g. Midnight Theater indicator
- h. 3-D Bass indicator
- i. FM Muting indicator
- j. Auto-tuning indicator
- k. FM Stereo indicator
- l. Tuned indicators
- m. Memory indicator
- n. RDS station received indicator (European model only)
- o. Source display (For Record out/ Multi-source out)
- p. Multi-Source indicator
- q. Record Out indicator
- r. Intelligent Power Management indicator
- s. Multi-function display
- t. Video-1 to Video-4 input selector display
- u. Digital input mode indicators

Remote controller

You can use the TX-DS747's remote controller to operate components that are equipped with an Onkyo **RI** (Remote Interactive) connector and are connected to the **RI** connectors on the TX-DS747. Refer to "Connections for remote controller" on page 11 for connection details. The remote controller can also be used to operate other brands of video equipment if the correct device code is programmed into the remote controller. Refer to the separate "Remote Controller Set-up & Code List" for details on how to program a device code.

- Note for customers in areas other than U.S. and Canada: You cannot use the remote controller when the POWER button on the front panel is set to OFF.

General controls:

These buttons are always available regardless of the Device select switch position.

Remote controller operation indicator

Lights up each time you press a button on the remote controller.

POWER button

Switches the TX-DS747 between stand-by status (the STAND-BY indicator is lit) and power-on status.

MUTE button

Temporarily mutes the sound from the speakers, and PRE OUT and PHONES outputs, but not the MULTI SOURCE PRE OUT. The MUTE indicator on the display flashes. Press this button again or turn the power off and on to cancel the audio muting.

On-screen cursor operation buttons

Allow you to move the cursor in the on-screen display.

INPUT SELECTOR buttons

Allow you to select an input from TAPE-1, TAPE-2 (monitor), TUNER or CD.

VIDEO ◀/▶ buttons

Allow you to select an input from VIDEO 1 through 4.

MAIN/SUB select switch

Switch to "MAIN" to operate the system from the main room using the remote controller; switch to "SUB" to control it from the sub room.

VOL Δ/▽ buttons

Allow you to adjust the volume level of the selected component.

ENTER button

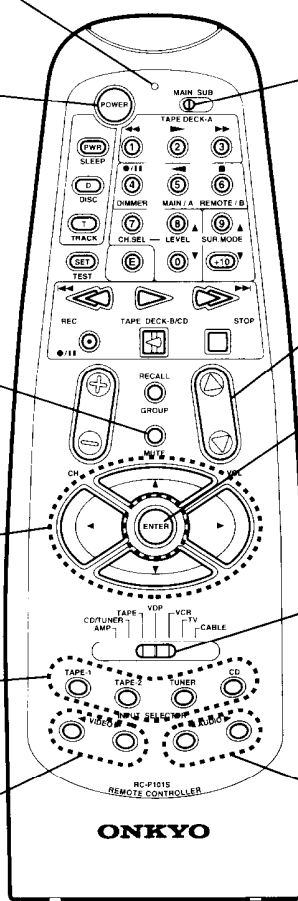
Displays the Menu screen or confirms the cursor operation in the on-screen display.

Device select switch

Allows you to select the component that you wish to operate or to enter a remote control code.

AUDIO ◀/▶ buttons

Allow you to select an input from TAPE-1, TUNER, PHONO, and CD.



Remote controller

Amplifier controls:

You can use the following buttons when the Device select switch is set to AMP.

SLEEP button

Enables you to set a period of time after which the power to the system is turned off.

Press this button to display "90 MIN." Press the button repeatedly to shorten the specified period of time in 10-minute steps. If you do not press the button again for more than five seconds, the timer will automatically start and the SLEEP indicator on the display will light up. Press this button while the indicator is lit to display the amount of time remaining; then edit the value in 10-minute steps. Press this button with ten minutes or less remaining to cancel the sleep timer; the power will not be turned off.

TEST button

Press this button to produce the test tone in order to adjust the volume balance between the speakers.

DIMMER button

Changes the brightness of the display in four steps: bright, medium, dim, and off.

MAIN/A button

Turns the SPEAKERS A on or off.

REMOTE/B button

Turns the SPEAKERS B on or off.

SUR. MODE ▲/▼ button

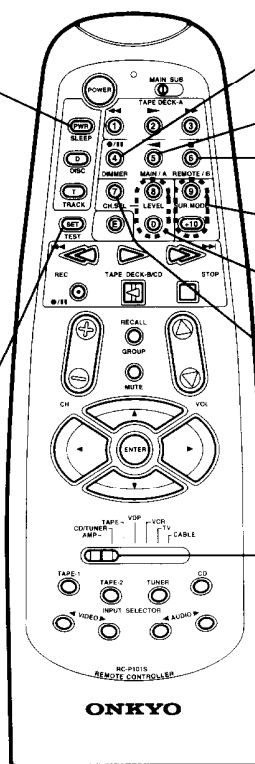
Allows you to select the Surround mode.

LEVEL ▲/▼ button

Adjusts the playback level of the speakers.

CH. SEL button

Switches between the speakers during the speaker volume adjustment.



AMP position

CD player and Tuner controls:

You can use the following buttons when the Device select switch is set to CD/TUNER.

SLEEP button

Refer to the "Amplifier controls" section above for more information on this button.

DISC button

Allows you to specify a disc number for the discs in the CD changer.

TRACK button

Allows you to use the number keys to specify a track on a CD.

CH +/- buttons

Allow you to select a preset FM or AM broadcasting station.

Number buttons (0, 1-9) and +10 button

Function as number keys.

CD buttons

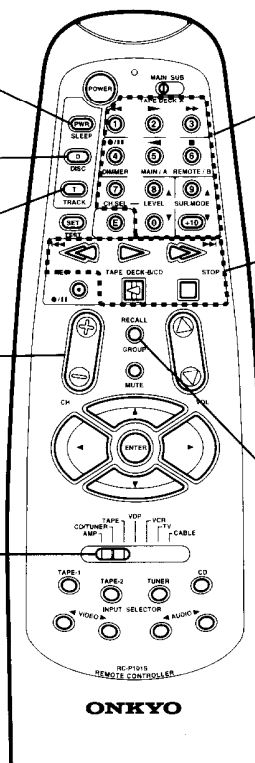
Function as operating buttons for the CD player.

- : Reverse skip (Down)
- : Playback
- : Forward skip (Up)
- : Pause
- : Stop

CD/TUNER position

GROUP button

Allows you to select a group (A, B, C, or D) of the tuner preset memory.



Remote controller

Tape deck controls:







You can use the following buttons when the Device select switch is set to TAPE.

SLEEP button

Refer to the "Amplifier controls" section on page 9 for more information on this button.

TAPE DECK-B buttons







Function as operating buttons for Tape Deck-B.

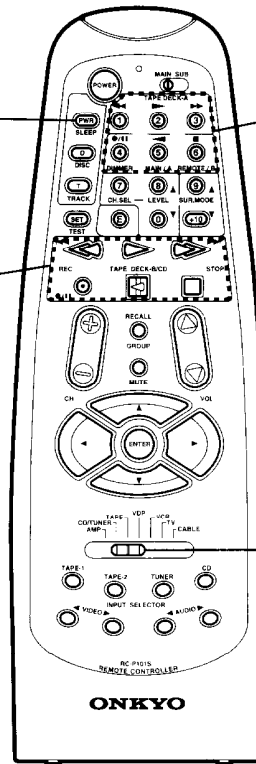
-  : Fast rewind
-  : Forward playback
-  : Fast forward
-  : Rec/pause
-  : Reverse playback
-  : Stop

- When a single deck is connected, use the TAPE DECK-B buttons.

TAPE DECK-A buttons

Function as operating buttons for Tape Deck-A.

-  : Fast rewind
-  : Forward playback
-  : Fast forward
-  : Rec/pause
-  : Reverse playback
-  : Stop



Video disc player and video cassette recorder controls:

You can use the following buttons when the Device select switch is set to VDP (for video disc player) or VCR (for video cassette recorder).

PWR button

Turns on and off the power.

T button (for VCR)

Toggles between the VCR and TV screens.

Enter button

Allows you to enter other brands' video device codes into this remote controller.

SET button

Allows you to start programming the video device codes of other brands in order to operate them using this remote controller.

CH +/- buttons (for VCR)







Allow you to select a channel.

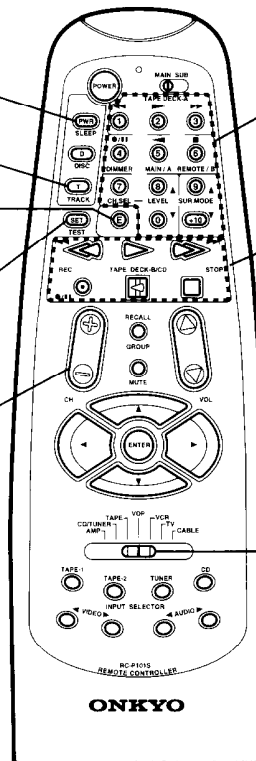
Number buttons (0, 1~9) and +10 button

Function as number keys for selecting a chapter or a channel.

Operation buttons

Function as operating buttons for the VDP and VCR.

-  : Fast rewind
-  : Playback
-  : Fast forward
-  : Rec/pause (VCR only)
-  : Pause
-  : Stop



Remote controller

TV and cable TV controls:

You can use the following buttons when the Device select switch is set to TV or CABLE.

PWR button

Turns on and off the power.

T button (for TV)

Toggles between the VCR and TV screens.

SET button

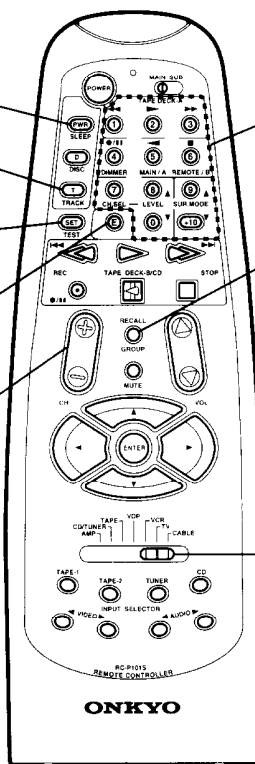
Allows you to start programming the video device codes of other brands in order to operate them using this remote controller.

Enter button

Allows you to enter other brands' video device codes into this remote controller.

CH +/- buttons

Allow you to select a channel.



Number buttons (0, 1~9) and +10 button

Function as number keys for selecting a channel.

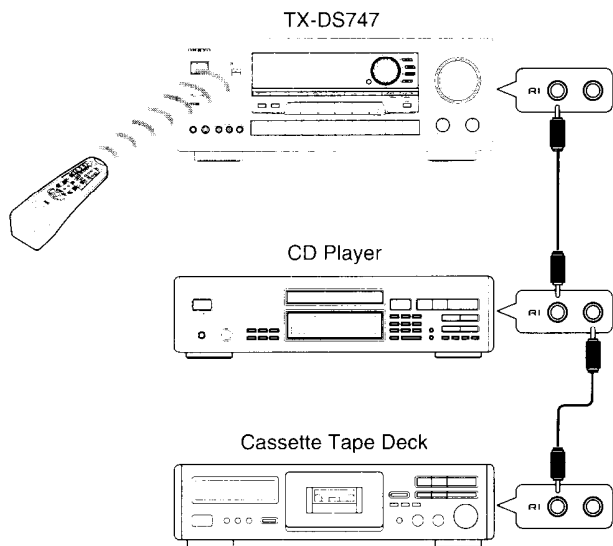
RECALL button

Allows you to recall a previously selected channel.

TV or CABLE position

Connections for remote control (RI)

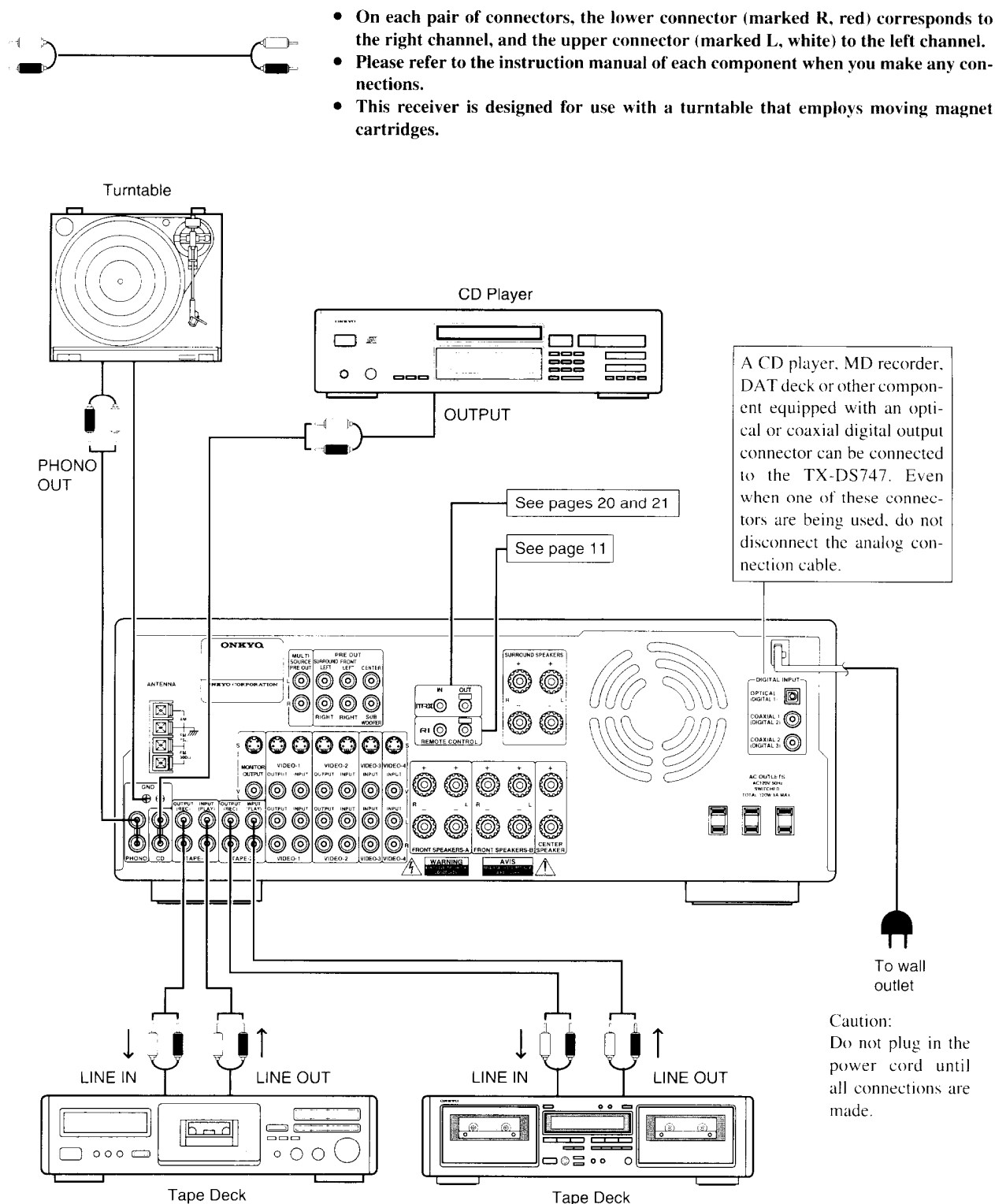
You can use the remote controller of this receiver to operate cassette tape decks and compact disc players that are equipped with an Onkyo **RI** connector.



Connect a remote control cable to the black connector with the **RI** mark. Never connect it to the gray or green connector with the **MR** mark.

- An **RI** remote control cable equipped with a 3.5mm (1/8 in.)-diameter miniature two-conductor phone plug comes with every compact disc player or cassette tape deck that has an **RI** connector.
- Remote control operation is not possible when only the remote control cable is connected – the audio connection cables must also be connected.
- This receiver's remote controller cannot be used to control Onkyo turntables.

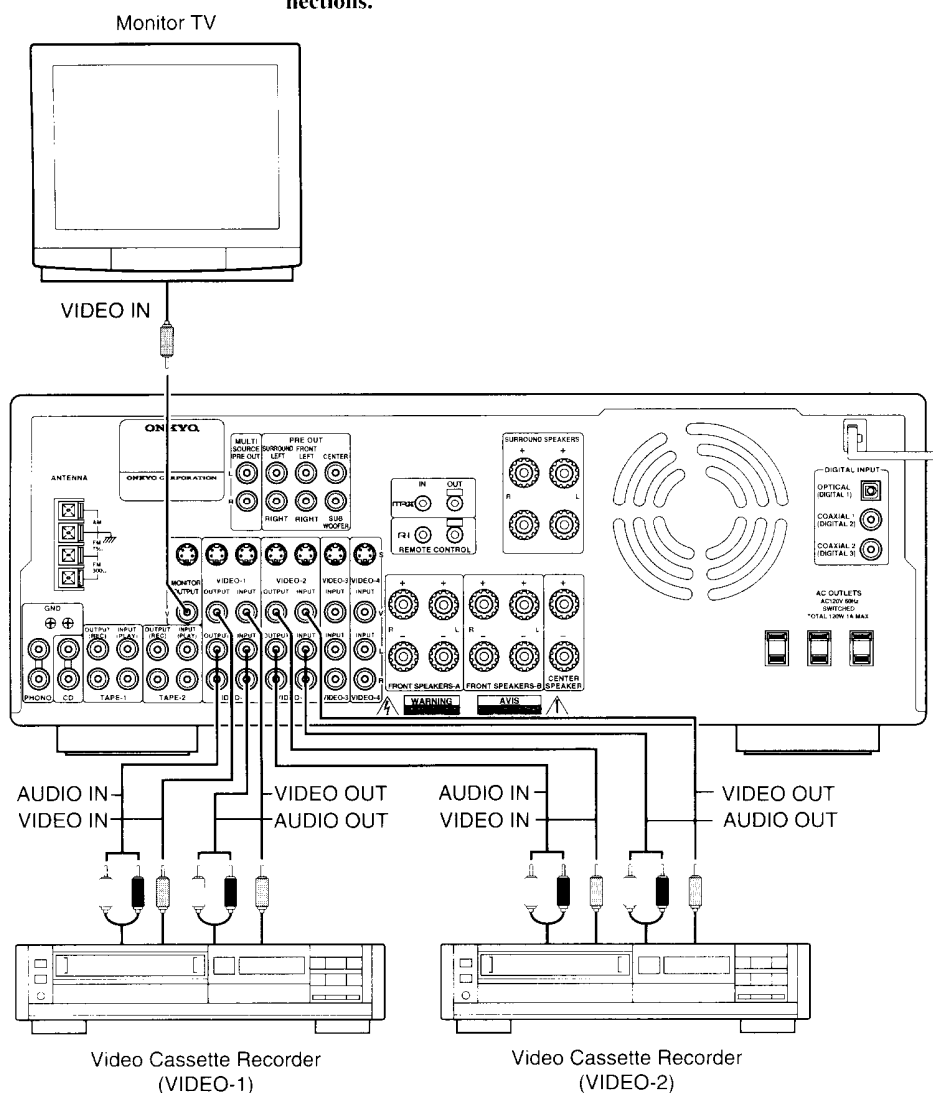
Audio equipment connections



- The FRONT SPEAKERS-B connectors are for use with normal stereo speakers, not surround speakers.
- The SURROUND SPEAKERS and CENTER SPEAKER connectors should be used with the FRONT SPEAKERS-A connectors.
- When you set the speaker system parameters (refer to “Setting System Setup A” on page 26), the crossover frequency is set automatically for the front speakers and subwoofer.
- The cooling fan that equips this unit operates to cool down the heat only when the sound volume from the surround channels is high. The fan does not operate when the front speakers output a loud sound.

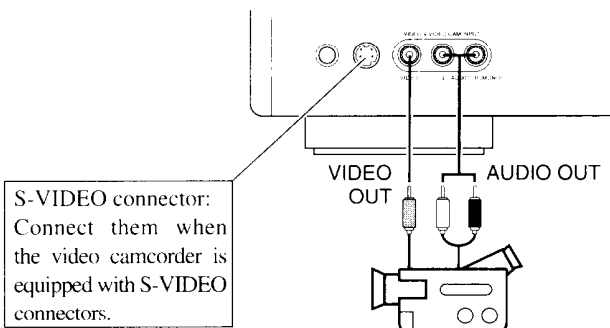
Video equipment connections

- On each pair of connectors, the lower connector (marked R, red) corresponds to the right channel, and the upper connector (marked L, white) to the left channel.
- The yellow connector (marked V) is used for video connection.
- Please refer to the instruction manual of each component when you make any connections.



- This unit can be used only with a monitor TV equipped with a video input.
- Interference may be caused between the TV and this unit. If this interference occurs, place the unit and the TV as far apart as possible. We do not recommend the use of a common TV/FM antenna (see the antenna section).
- When using a playback-only VCR, connect its output to the TX-DS747's video input connector.
- Connect a component with an S-VIDEO connector to the S-VIDEO connectors on the TX-DS747. (Refer to "S-VIDEO connectors" on page 15 for details.)

VIDEO-4/CAMCORDER

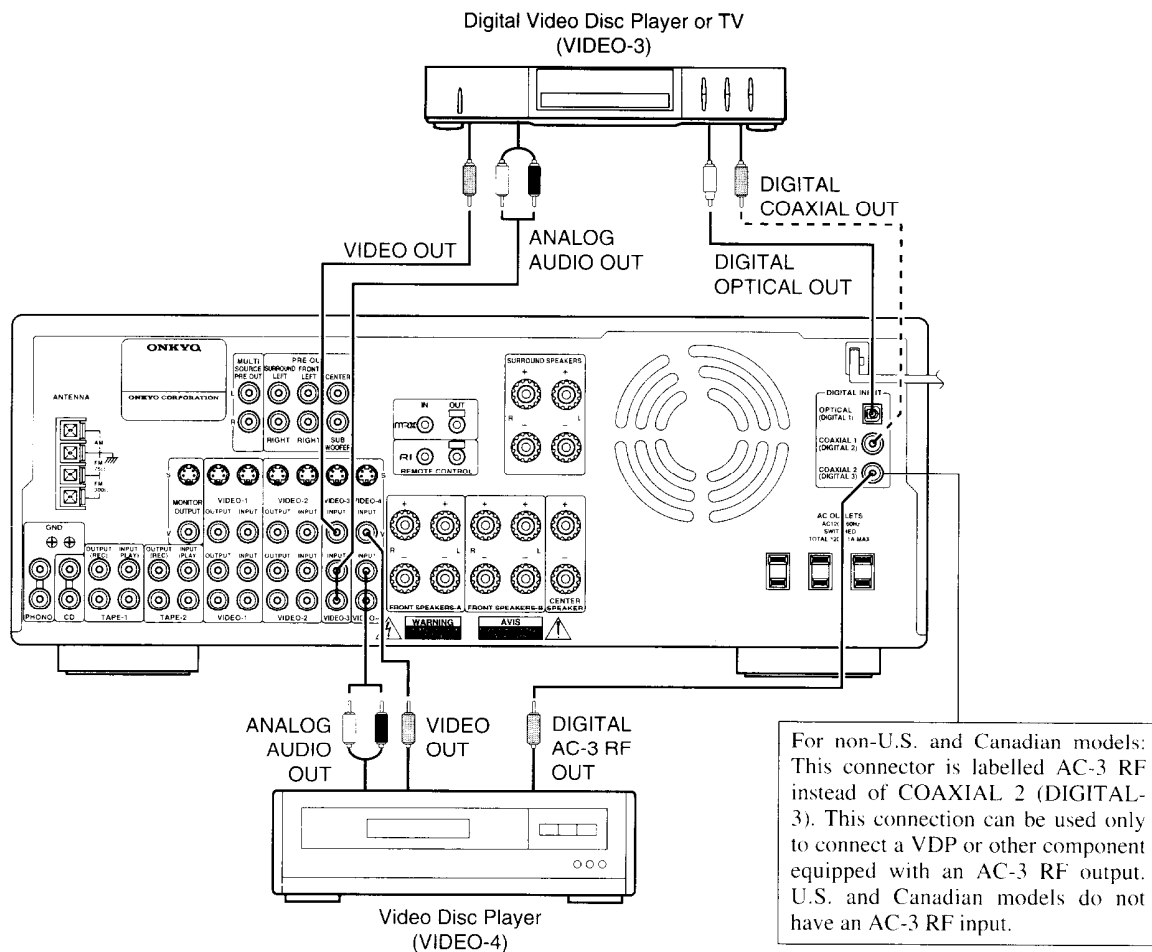


- There are VIDEO-4 INPUT connectors on both the front and rear panels. When a component is connected to the VIDEO-4/ VIDEO CAM INPUT connector on the front panel, you cannot operate a component connected to the VIDEO-4 INPUT and DIGITAL INPUT connectors on the rear panel.
- To connect a mono video component to the front panel, use the R (MONO) input connector.

Video equipment connections

Digital audio connections

The TX-DS747 Receiver has a powerful digital signal processor for use with DVD players, DAT decks, and CD players. The digital inputs, DIGITAL-1, DIGITAL-2, and DIGITAL-3, can be assigned to individual input selector buttons, so when an input selector button is pressed, the assigned digital input is used instead of the corresponding analog input.



- A DVD or other component equipped with a digital output can be connected to the TX-DS747. The digital connection must be used in conjunction with an analog connection, because if the analog cable is disconnected, the multi-room remote system, TAPE OUT and REC OUTs, and headphone (when AC-3 RF connector is used) will not work.
- When a DVD player is connected to the VIDEO-3 connector, press the VIDEO-3 DVD/TV button repeatedly until "IPM OFF" appears on the display.
- If you are connecting a VDP's AC-3 RF output to the receiver's AC-3 RF DIGITAL INPUT, also connect the VDP's analog outputs to the receiver's VIDEO-4 INPUTs. When a Dolby Digital (AC-3) laser disc is played, the digital input is selected automatically. However, the analog input is selected when Surround OFF (STEREO) mode is engaged.

Assigning the Digital Inputs to Input Selector Buttons:

1. Press the input selector button (except FM, AM, and PHONO buttons).
 2. Press the DIGITAL AUDIO SELECTOR button. "DIGITAL" appears on the display.
 3. Press the DIGITAL AUDIO SELECTOR button repeatedly until the number of the digital input appears. A flashing number indicates that nothing is connected to the digital input. On non-U.S. and Canadian models, only digital inputs 1 and 2 can be assigned.
- With the assignment complete, pressing the input selector button automatically selects the digital input.

To cancel a digital input assignment, press the input selector button, and then press the DIGITAL AUDIO SELECTOR button repeatedly until "DIGITAL" disappears from the display.

- Even when the digital inputs are used, the analog connecting cables must be left in place. Otherwise, the multi-room remote system, TAPE OUT and REC OUTs, and headphone (when AC-3 RF connector is used) will not work.
- When a Dolby Digital source is played, "ch" followed by a number, for example, "3/2", appears on the display, indicating which of the three front channels and two surround channels are available for sound reproduction.

Warning:

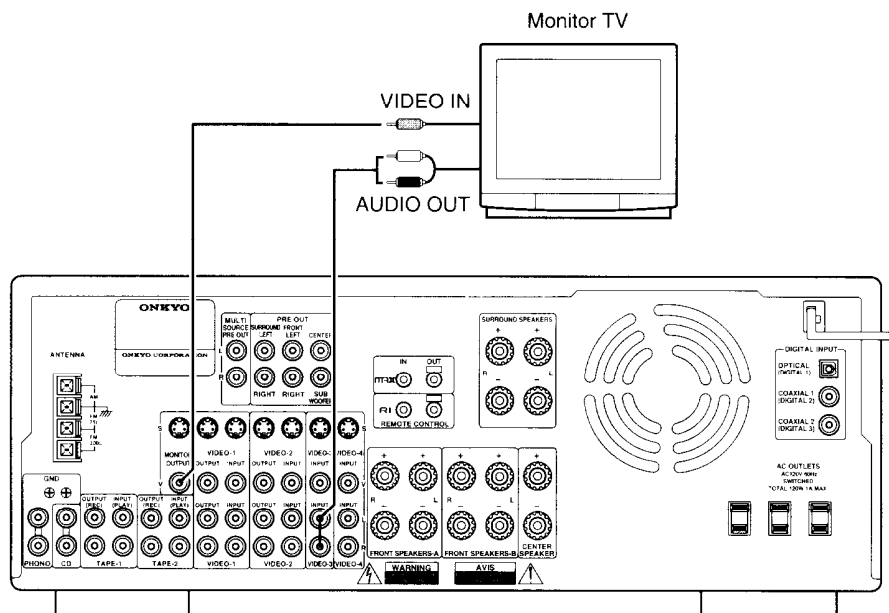
- Do not play CD-ROM discs, which contain computer data that may cause speaker damage when amplified by the receiver.
- The multi-room remote system, TAPE-1 and TAPE-2 REC OUTs and headphone (when AC-3 RF connector is used) can output signals from analog sources, but not digital sources. If your DVD player or a component equipped with digital output has analog and digital outputs, connect them both so that you can listen and record at the same time.

Video equipment connections

IPM (Intelligent Power Management) System

The TX-DS747 is equipped with an IPM system, which automatically turns on or off the receiver's power when the TV is turned on or off. To use the IPM system, you must connect the audio output of a monitor TV to the VIDEO-3 INPUT connectors and press the VIDEO-3 DVD/TV button of the input selector. "VIDEO-3 DVD" or "VIDEO-3 TV" will appear on the display. Then, press the VIDEO-3 DVD/TV button repeatedly until "IPM ON" appears on the display. The IPM indicator will light up on the display and you can use the IPM system.

The receiver will be automatically switched on approximately five seconds after the TV is turned on and the input selector is set to "VIDEO-3 TV." Provided that the input selector is set to "VIDEO-3 TV", the receiver will be automatically switched off five minutes after the TV is turned off.



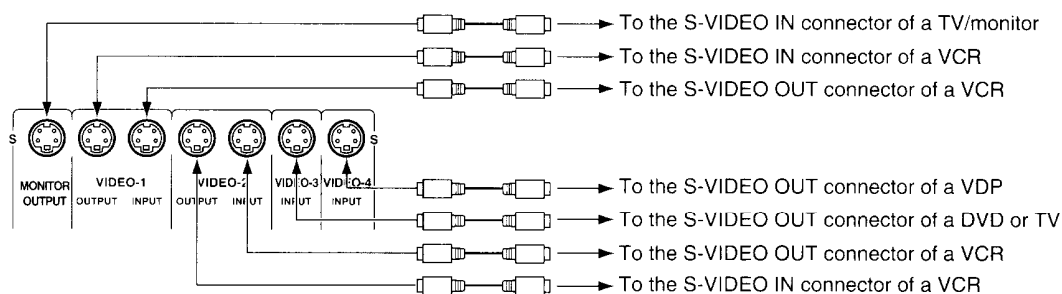
- If a mono TV is used, connect the audio output of the TV to the VIDEO-3 INPUT "L" connector.
- When you power off the TV, "●" flashes on the left side of the TX-DS747's display, and five minutes later the TX-DS747 also turns off.
- When the IPM system is set to ON, the video signal connected to the VIDEO-3 INPUT is not output from the MONITOR OUTPUT connector.

Warning:

First, make sure that the IPM system works correctly with your TV before using the system.

S-VIDEO connectors

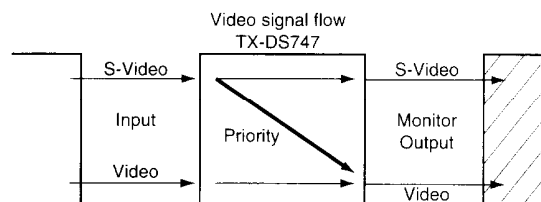
If your video components have an S-VIDEO connector equipped, use S-VIDEO cables to make connections as shown below.



Video and S-Video input/monitor output priority:

A signal fed into an S-VIDEO input connector will be output to the MONITOR OUTPUT from both the S-VIDEO and the standard video connectors. However, a signal fed into the standard video connector will be output only from the standard video connector.

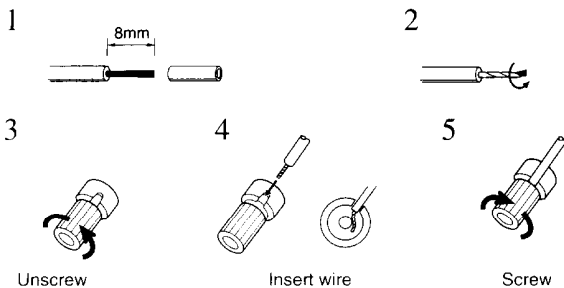
- When a video component or a TV/monitor with an S-VIDEO input is connected to both the S-VIDEO output connector and the standard video output connector, some models automatically select the S-VIDEO connection for recording or playback (the S-VIDEO connection has priority).



Making speakers connections

- If you want to use the surround effects, the surround speakers must be connected. For the best results, connect a center speaker.
- Use the **FRONT SPEAKERS B** connectors to connect a second pair of front speakers.
- When only one pair of speakers is connected, the impedance of the speakers used must be between 6 and 16 ohms.

Connecting the speaker cables

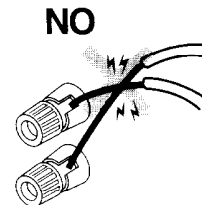


When using banana plugs, make sure that you tighten the speaker connector screws firmly before inserting the banana plugs.

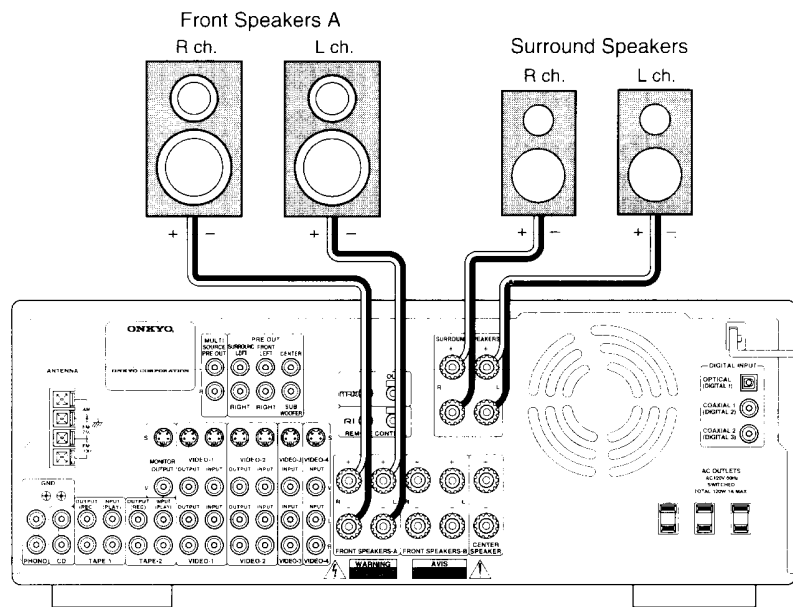
- Note that the speaker connectors on models other than the U.S. and Canadian models are not banana-plug compatible.

Warning:

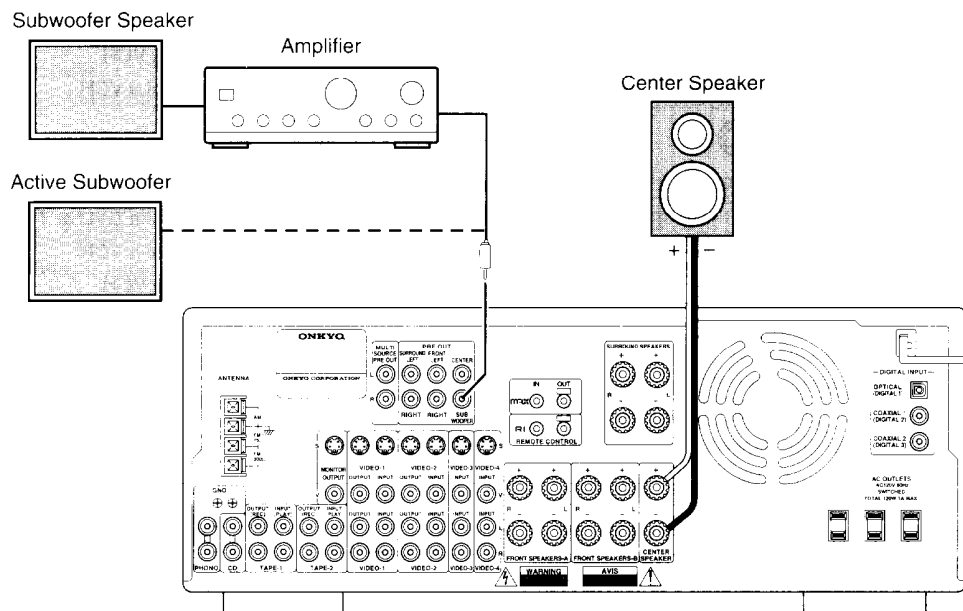
To prevent damage to circuitry, never short-circuit the positive (+) and negative (-) speaker wires.



Front and Surround speakers

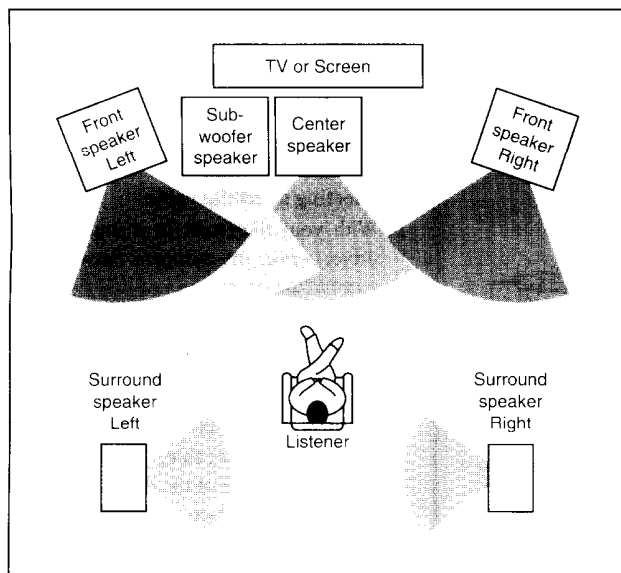


Center speaker and Subwoofer



Positioning speakers

Speaker placement plays an important role in the reproduction of Surround sound. The manner in which the speakers are placed varies depending on the size of the room and the wall coverings used in the room. The illustration below shows an example of a layout for standard speaker placement. Refer to this example when you position the speakers in order to experience the best of Surround sound.



Standard speaker placement

For ideal Surround effects, all speakers should be installed. If a center speaker or subwoofer is not connected, the sound from the unused channel is properly distributed to the connected speakers in order to produce the best Surround sound possible.

Front: The left, right, and center speakers should face the seated listener and be placed at ear level. The center speaker produces a richer sound image by enhancing the perception of the sound's source and movement.

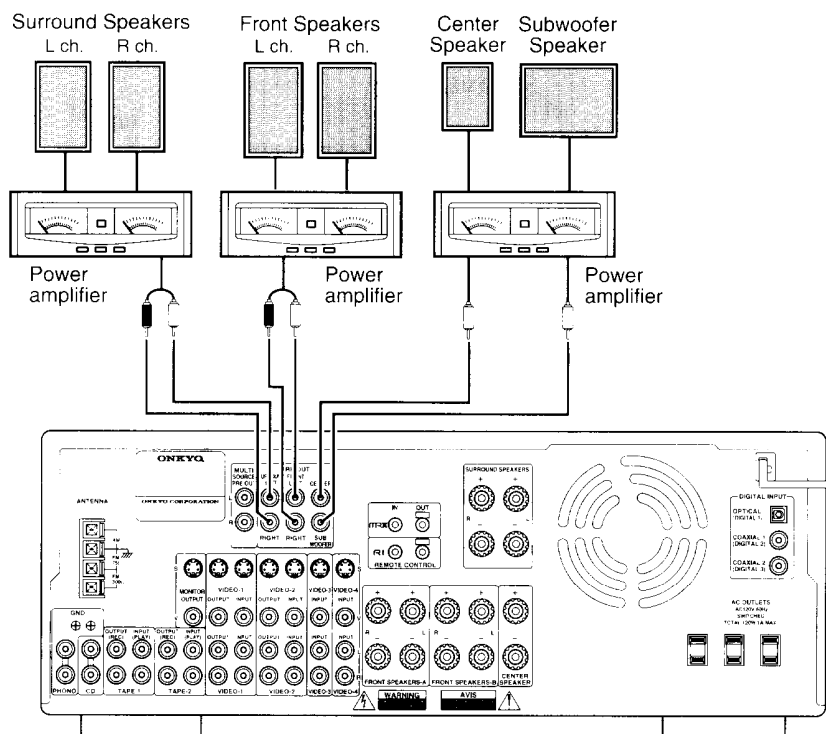
Surround: Place the left and right Surround speakers 1 meter (3 feet) above the listener's ear level and toward the sides of the room, making sure that the listener is within the speakers' dispersion angle. These speakers produce the feel of a moving sound while creating the sensation of being in the middle of the action.

Subwoofer: Install a subwoofer with a built-in power amplifier for powerful bass sounds. The placement of the subwoofer does not affect the final quality of the sound image too much, so you can install it with the room layout in mind.

Refer to the speaker's instruction manual for more details.

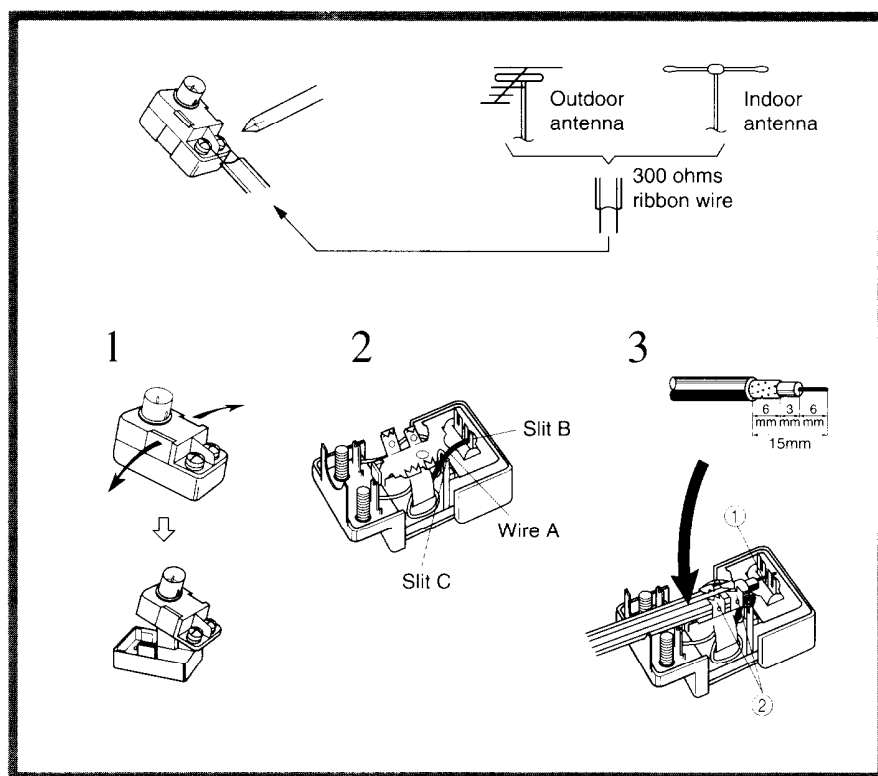
Optional power amplifier connections

This unit is equipped with a set of PRE OUT connectors that allow you to connect external power amplifiers. With such amplifiers, you can play sources at even higher volume levels than with the TX-DS747 alone. Connect the TX-DS747's PRE OUT connectors to the power amplifiers' input connectors, then connect the speakers to the power amplifiers.



- When you are using power amplifiers connected to the SURROUND, FRONT, CENTER and/or SUB WOOFER PRE OUT connectors, set the SPEAKERS A button on the front panel to ON.
- Power amplifiers or integrated amplifiers can be used in this application.

Making antenna connections



Connecting the antenna cable to the 75/300 ohm antenna adapter (Worldwide models)

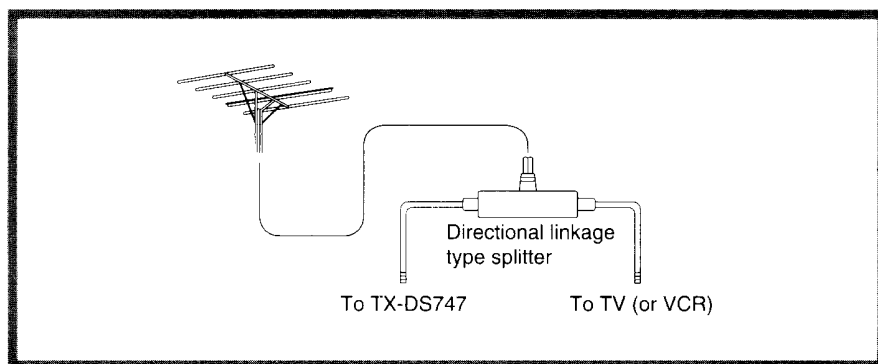
Connecting a 300 ohm ribbon wire:

Loosen the screws and wrap the wire around these screws. Tighten the screws with a screwdriver.

Connecting a coaxial cable:

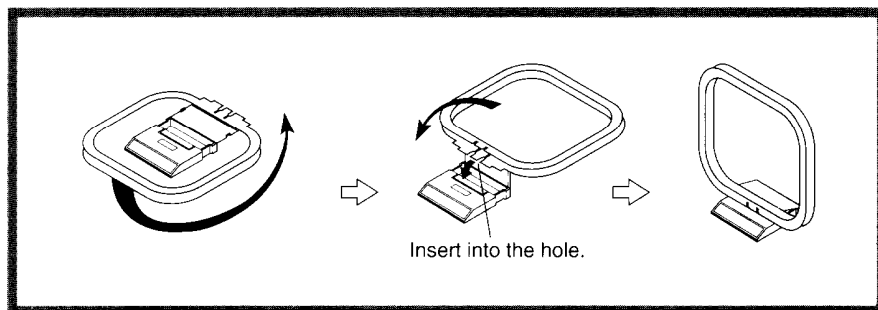
1. With your fingernail or a small screwdriver, press the stoppers outward and remove the cover.
2. Remove the transformer wire A from slit B and insert it into slit C.
3. Prepare the coaxial cable as shown in the diagram.
Connect the 75/300 ohm antenna adapter to the coaxial cable.
① Insert the end of the cable.
② Clamp it in place with pliers.
4. Re-install the cover.

- This adapter is included if your receiver is a worldwide model.



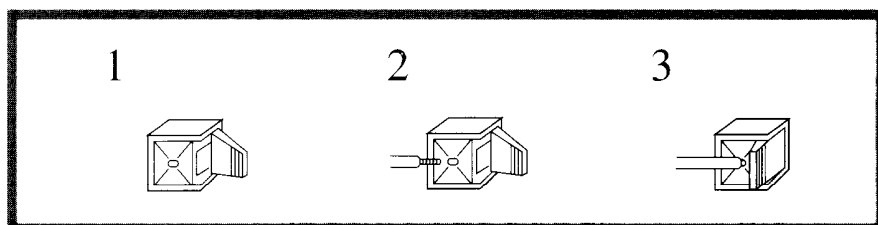
Directional linkage

Do not use the same antenna for both FM and TV (or VCR) reception since the FM and TV (or VCR) signals can interfere with each other. If you must use a common FM/TV (or VCR) antenna, use a directional linkage-type splitter.



Assembling the AM loop antenna

Assemble the loop antenna as shown in the illustration.

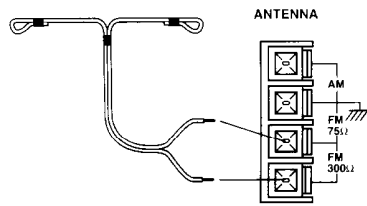


Connecting the antenna cable

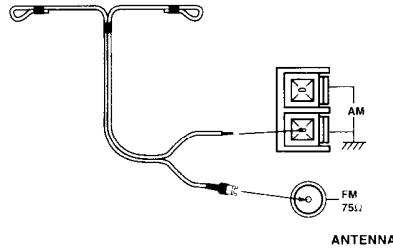
1. Open the lever.
2. Insert the wire.
3. Close the lever.

Making antenna connections

U.S. and Canadian models



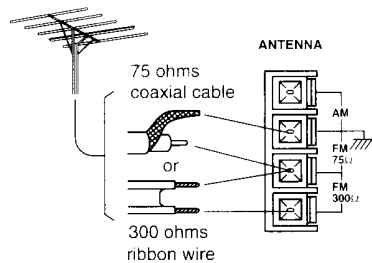
Other models



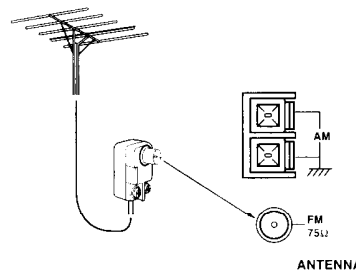
Connecting the T-shaped FM antenna

The T-shaped FM antenna is for indoor use only. Extend the antenna and move it in various directions until the clearest signal is received. Fix it with push pins or similar implements in the position that will cause the least amount of distortion.

U.S. and Canadian models



Other models

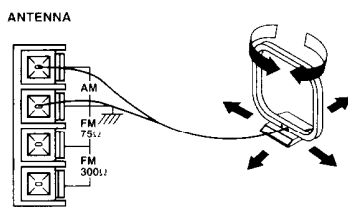


Connecting an FM outdoor antenna

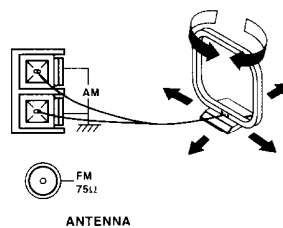
If the reception is not very clear with the attached T-shaped FM antenna, the use of an outdoor antenna is recommended. Please make sure that you follow the considerations below regarding the location. Keep the antenna away from noise sources (neon signs, busy roads etc.). It is dangerous to put the antenna close to power lines. Keep it well away from power lines, etc.

- To avoid the risk of lightning and electrical shock, grounding is necessary. Follow item 19 of the "Important Safeguards" on page 3 when you install the outdoor antenna.

U.S. and Canadian models



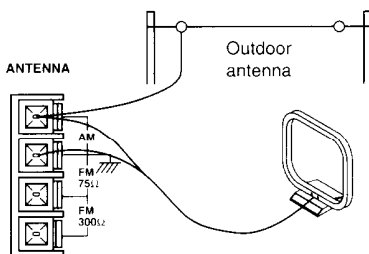
Other models



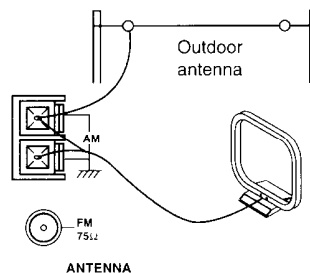
Connecting the AM loop antenna

The AM loop antenna is for indoor use only. Set it in the direction and position where you receive the clearest sound. Put it as far as possible away from this unit, TV, speaker cables, and power cords.

U.S. and Canadian models



Other models



Connecting an AM outdoor antenna

When reception is not satisfactory with the attached AM loop antenna alone, connection of an outdoor antenna is recommended.

The outdoor antenna will be more effective if it is stretched horizontally above a window or outside.

- Do not remove the AM loop antenna.
- To avoid the risk of lightning and electrical shock, grounding is necessary. Follow item 19 of the "Important Safeguards" on page 3 when you install the outdoor antenna.

Setting up the multi-room remote system

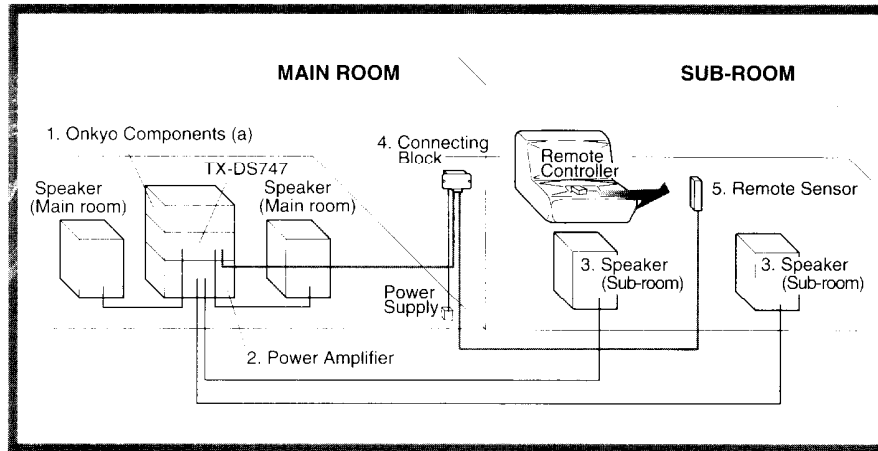
Using the optional Multi-Room System equipment as well as a power amplifier and connecting components as shown in the following diagrams will enable you to control them from the main room (where the system is located) as well as from another room (sub-room).

U.S. and Canadian models (Xantech Multiple-Room systems)

Do not plug in the power cord until all connections are made.

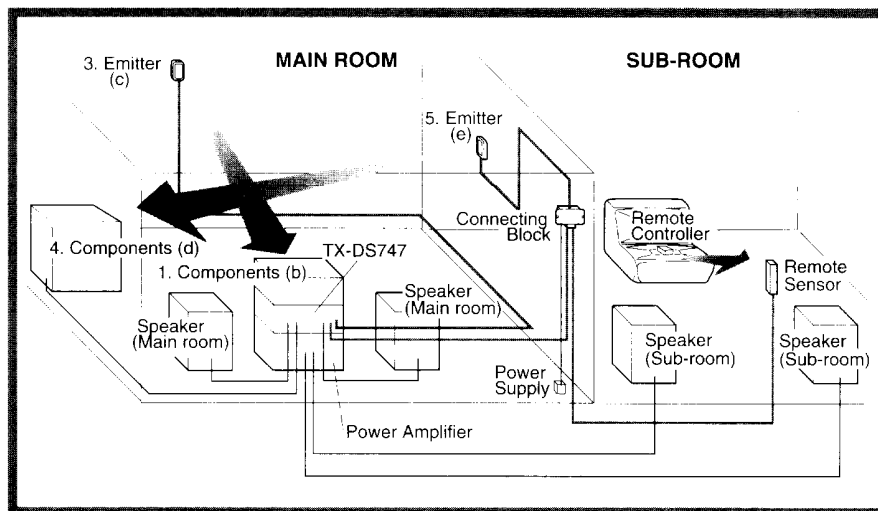
Make connections ① through ⑥ as shown in the Connection Diagram below. Make sure the components are correctly connected.

■ Connecting components equipped with Onkyo **RI** connectors



1. Set up the Onkyo **RI** components (a).
2. Connect the TX-DS747 to the power amplifier. ①
3. Connect the sub-room speaker cables to the speaker terminal on the power amplifier. ②
4. Install the Connecting Block in the main room, then connect it to the TX-DS747. ③
5. Install the Remote Sensor in the sub-room, then connect it to the Connecting Block in the main room. ④

■ Connecting components not equipped with Onkyo **RI** connectors

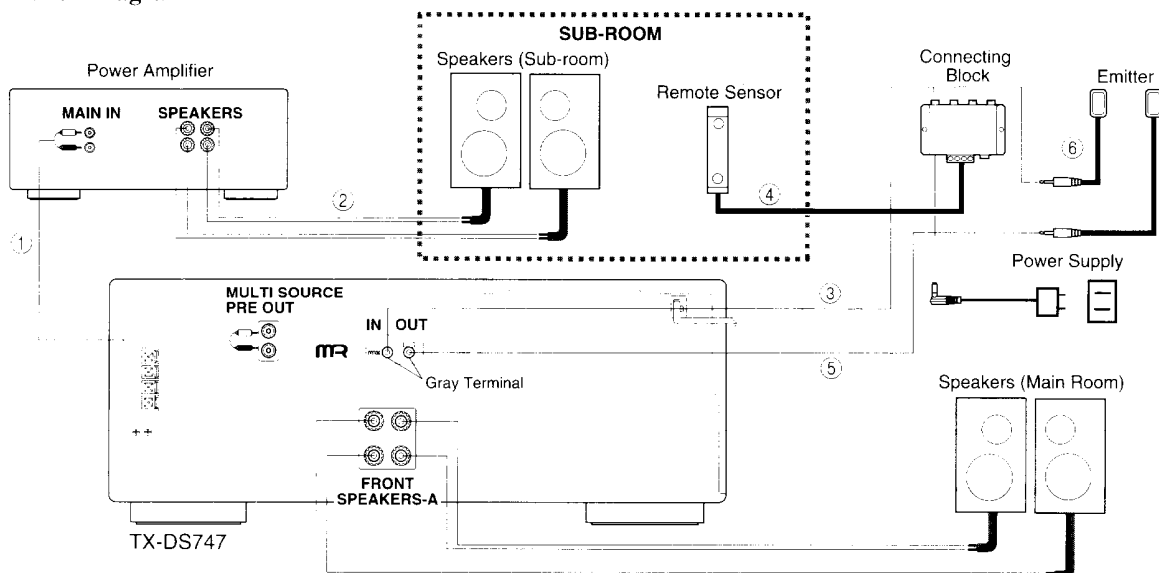


1. Connect the components (b) to the TX-DS747.
2. Make the connections described above in steps 2 through 5.
3. Install the Emitter (c) so that its sensor is directed toward the components, then connect it to the TX-DS747. ⑤

To operate components positioned out of range of the emitter:

4. Connect these components (d) to the TX-DS747.
5. Install another Emitter (e) so that its sensor is directed toward these components, then connect it to the Connecting Block. ⑥

Connection Diagram



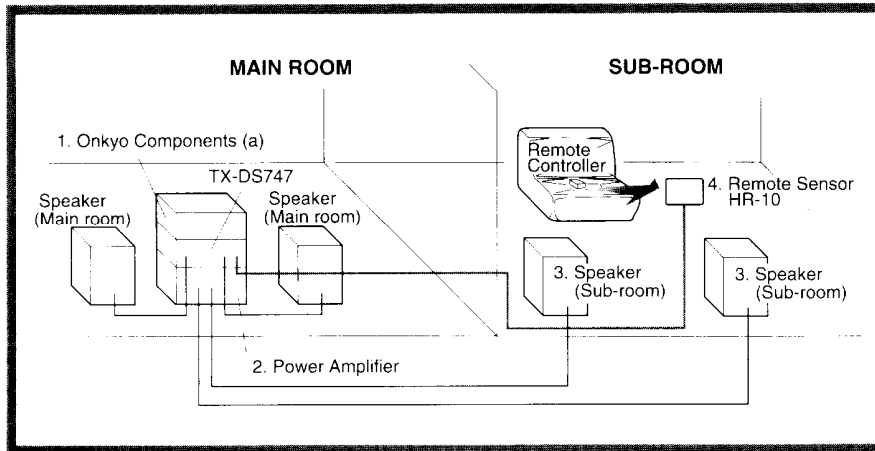
Setting up the multi-room remote system

Models other than U.S. and Canadian models (Onkyo Multi-Room systems)

Do not plug in the power cord until all connections are made.

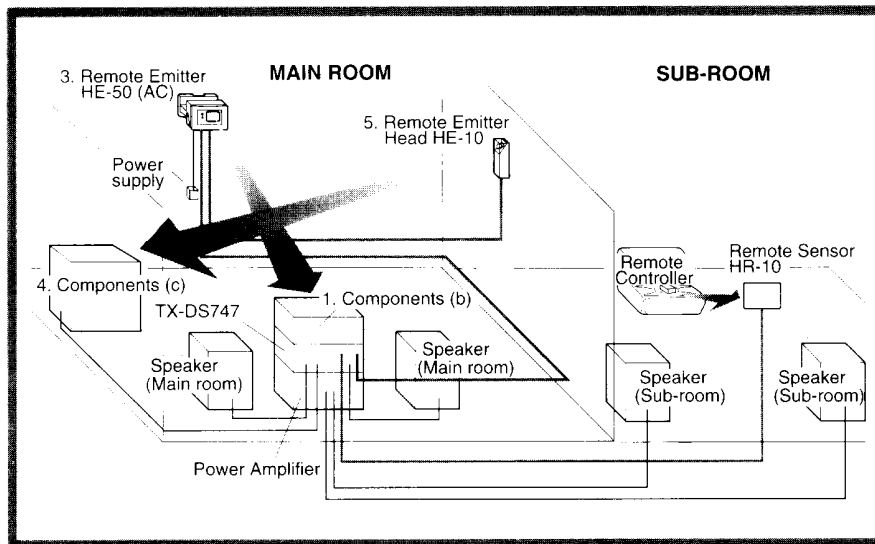
Make connections ① through ⑤ as shown in the Connection Diagram below. Make sure the components are correctly connected.

■ Connecting components equipped with Onkyo **RI** connectors



1. Set up the Onkyo **RI** components (a).
2. Connect the TX-DS747 to the power amplifier. ①
3. Connect the sub-room speaker cables to the speaker terminals on the power amplifier. ②
4. Install Remote Sensor HR-10 in the sub-room, then connect it to the TX-DS747. ③

■ Connecting components not equipped with Onkyo **RI** connectors

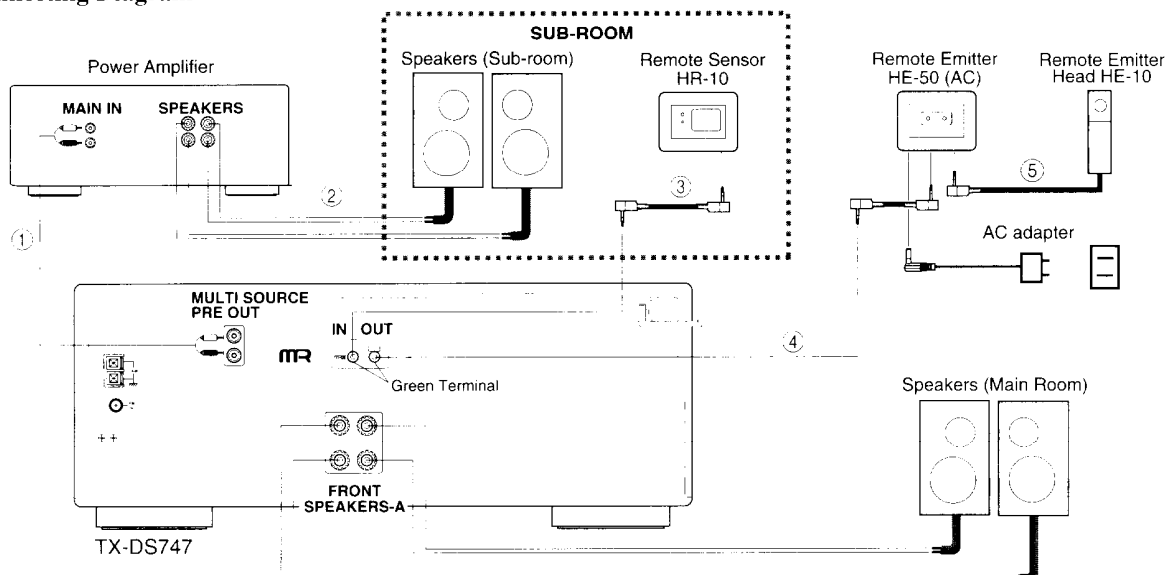


1. Connect the components (b) to the TX-DS747.
2. Make the connections described above in steps 2 through 4.
3. Install Remote Emitter HE-50 (AC) so that its sensor is directed toward these components, then connect it to the TX-DS747. ④ (Connect the AC adapter to the Remote Emitter.)

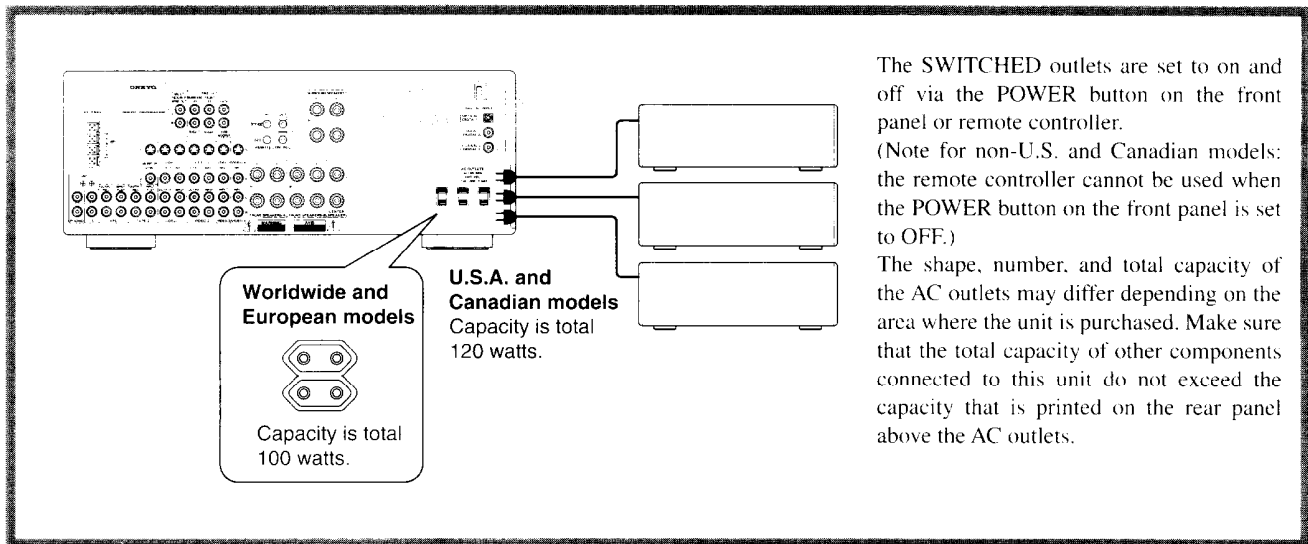
To operate components positioned out of range of the emitter:

4. Connect these components (c) to the TX-DS747.
5. Install Remote Emitter Head HE-10 so that its sensor is directed toward these components, then connect it to the HE-50 (AC). ⑤

Connecting Diagram

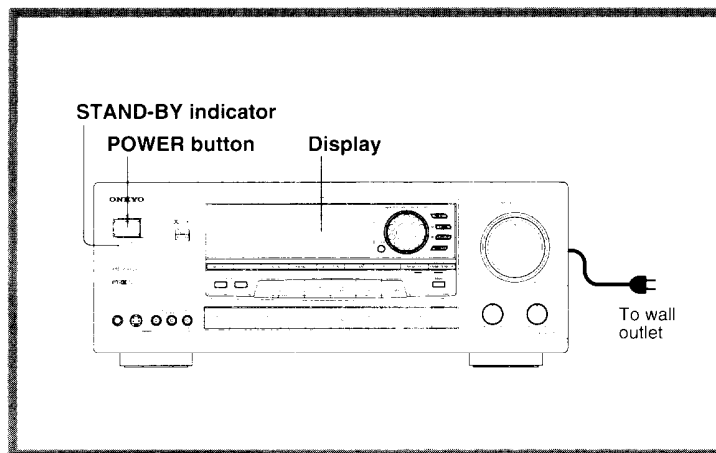


AC outlet connections



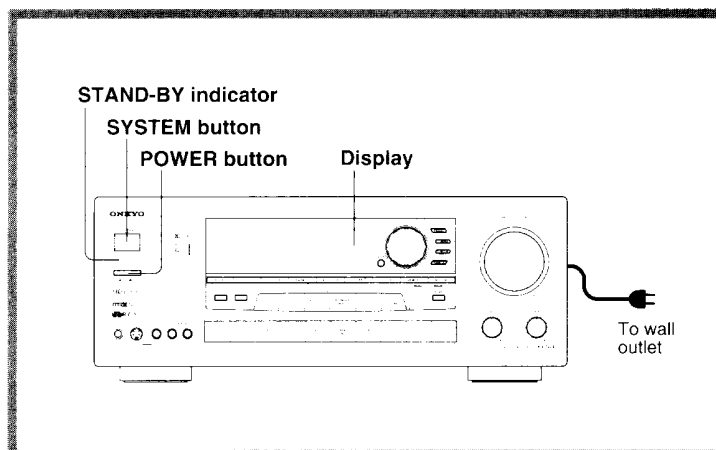
Connecting the power

- Before plugging in the receiver, confirm that all connections have been made properly.
- Before turning on the power, make sure that the MASTER VOLUME control is fully turned counterclockwise.
- Turning on this receiver's power may cause a momentary power surge, which might interfere with other electrical equipment, such as computers. If so, use a wall outlet on a different circuit.



U.S. and Canadian models

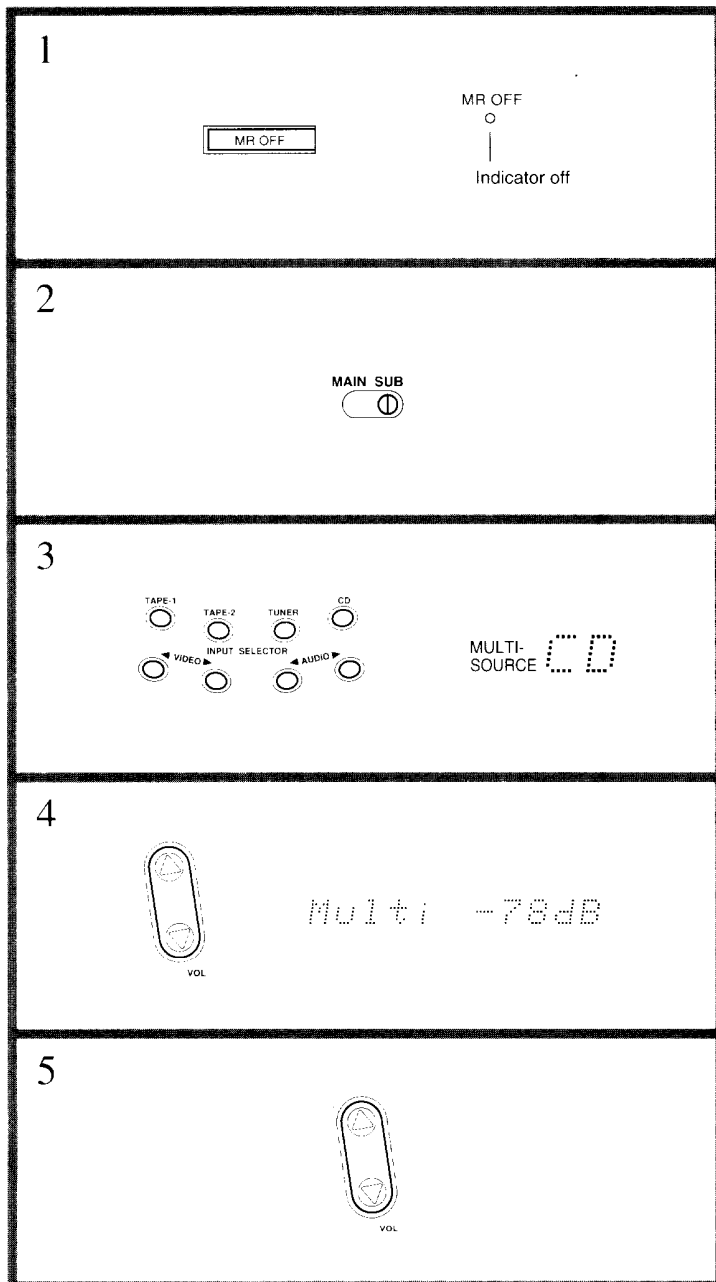
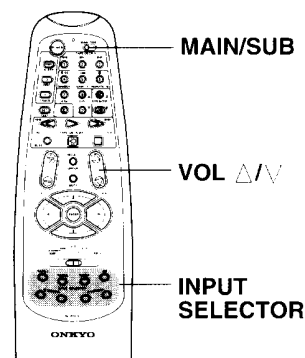
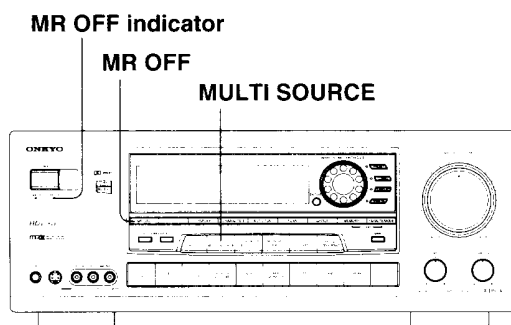
1. Plug the power cord into an AC wall outlet. The STAND-BY indicator lights up and the receiver enters Standby mode, ready for operation.
 2. Press the POWER button to turn on the receiver. The display will light up and the STAND-BY indicator will be turned off.
If you press the POWER button again, the receiver returns to standby mode.
- The POWER button on the remote controller is used in the same way as the POWER button on the TX-DS747.



Other than U.S. or Canadian model

1. Plug the power cord into an AC wall outlet.
 2. Press the POWER button to set the receiver to Standby mode. The STAND-BY indicator will light up.
 3. Press the SYSTEM button or POWER button on the remote controller to turn on the receiver. The display will light up and the STAND-BY indicator will be turned off.
If you press the SYSTEM button or POWER button on the remote controller again, the receiver returns to standby mode.
- You cannot use the remote controller if the POWER button on the receiver is set to OFF.

Multi-room remote control



Listening from another room

Please refer to pages 20 and 21 for connection details.

In the Main Room:

1. Press the MR OFF button on the TX-DS747 to turn off the MR OFF indicator.

If the MR OFF indicator is lit, the multi-room system cannot be used.

2. Set the MAIN/SUB selector switch on the remote controller to SUB.

3. Press the appropriate INPUT SELECTOR button on the remote controller to select your desired source and start operating it.

The MULTI-SOURCE indicator lights up and the display indicates the input source.

- To select a different sub-room source from the main room, press the MULTI SOURCE button on the main unit. While the MULTI-SOURCE indicator is flashing, use the input selector buttons to select your desired source.

If you press an input selector button while the indicator is off, the main room source will change.

4. Set the Multi source level to minimum (between -78 and -76 dB) using the VOL Δ or ▽ button on the remote controller.

The Multi source level appears on the display.

In the sub-room:

Direct the remote controller toward the Remote Sensor (Onkyo multi-room system).

5. Use the VOL Δ or ▽ button to adjust the volume to the desired level.

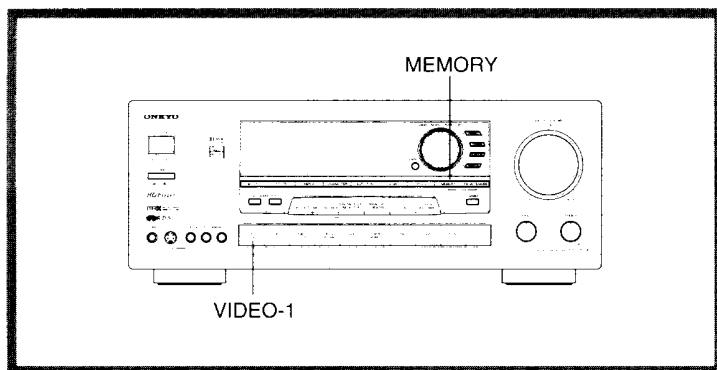
NOTE:

- If you set the MAIN/SUB selector switch on the remote controller to MAIN and adjust the MASTER VOLUME control knob is adjusted, the volume level of the speakers in the main room, not in the sub-room, will change.

If you cannot control the component using the remote controller from the sub-room, check the following:

- Use the controls on the TX-DS747 in the main room to check to see if they work properly. Then, use the remote controller to check to see if the component is working properly. If it is not, refer to page 5.
- If you are operating a component that does not bear Onkyo's **RI** mark, check to see if the emitter is directed toward that component.
- Check to see if the components are correctly connected.
- Check to see if the MR OFF indicator on the TX-DS747 is turned off.

Using the on-screen display function



Selecting the NTSC or PAL system (Not available on the U.S. and Canadian models)

If the picture on the screen scrolls with the TV signal that is being received, change the system setting.

While holding down the MEMORY button and press the VIDEO-1 button repeatedly until the desired system appears on the display.

→ OSD AUTO → OSD NTSC → OSD PAL →

If you select "OSD AUTO," the unit will automatically select the system used by the connected TV/monitor or projector.

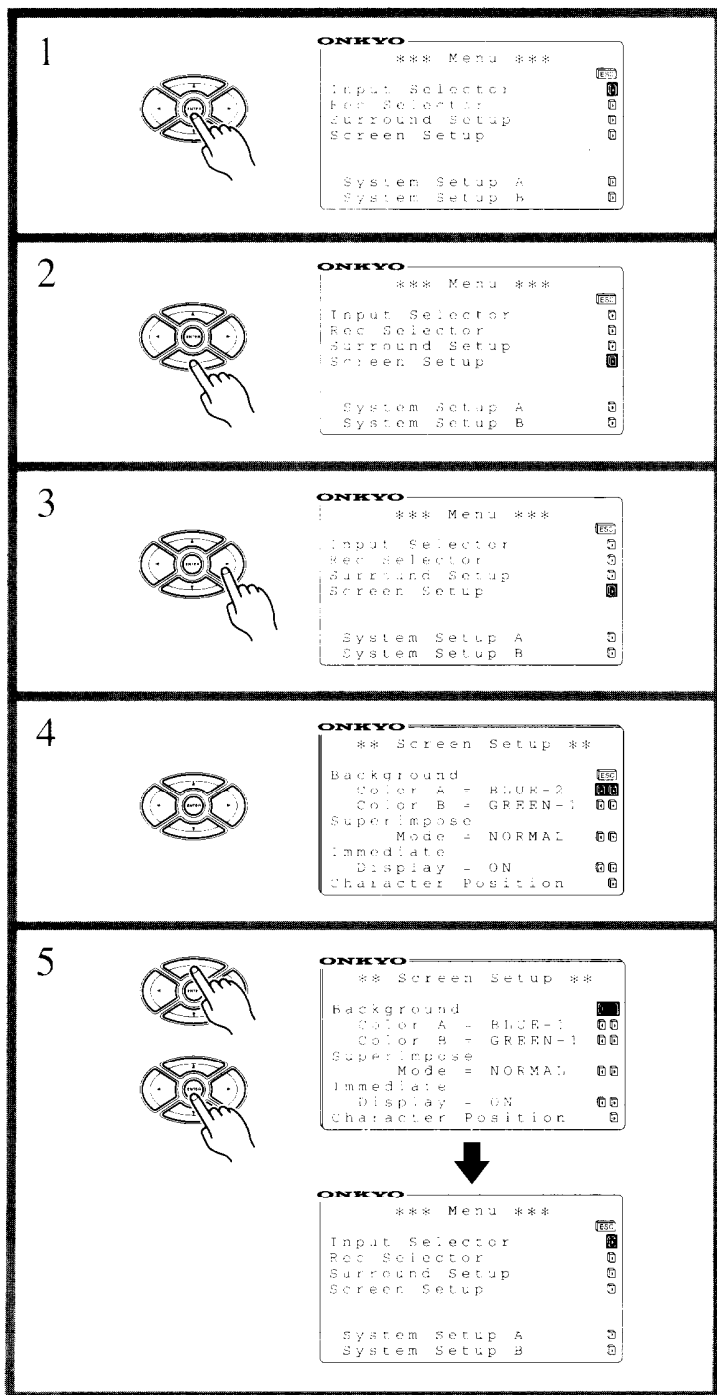
Basic operation

The functions displayed on the screen can be operated only by the remote controller. Move the cursor to the desired menu icon. The menu icon will be highlighted.

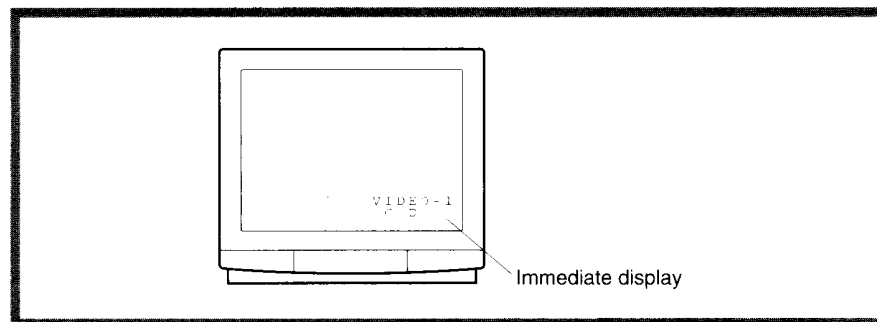
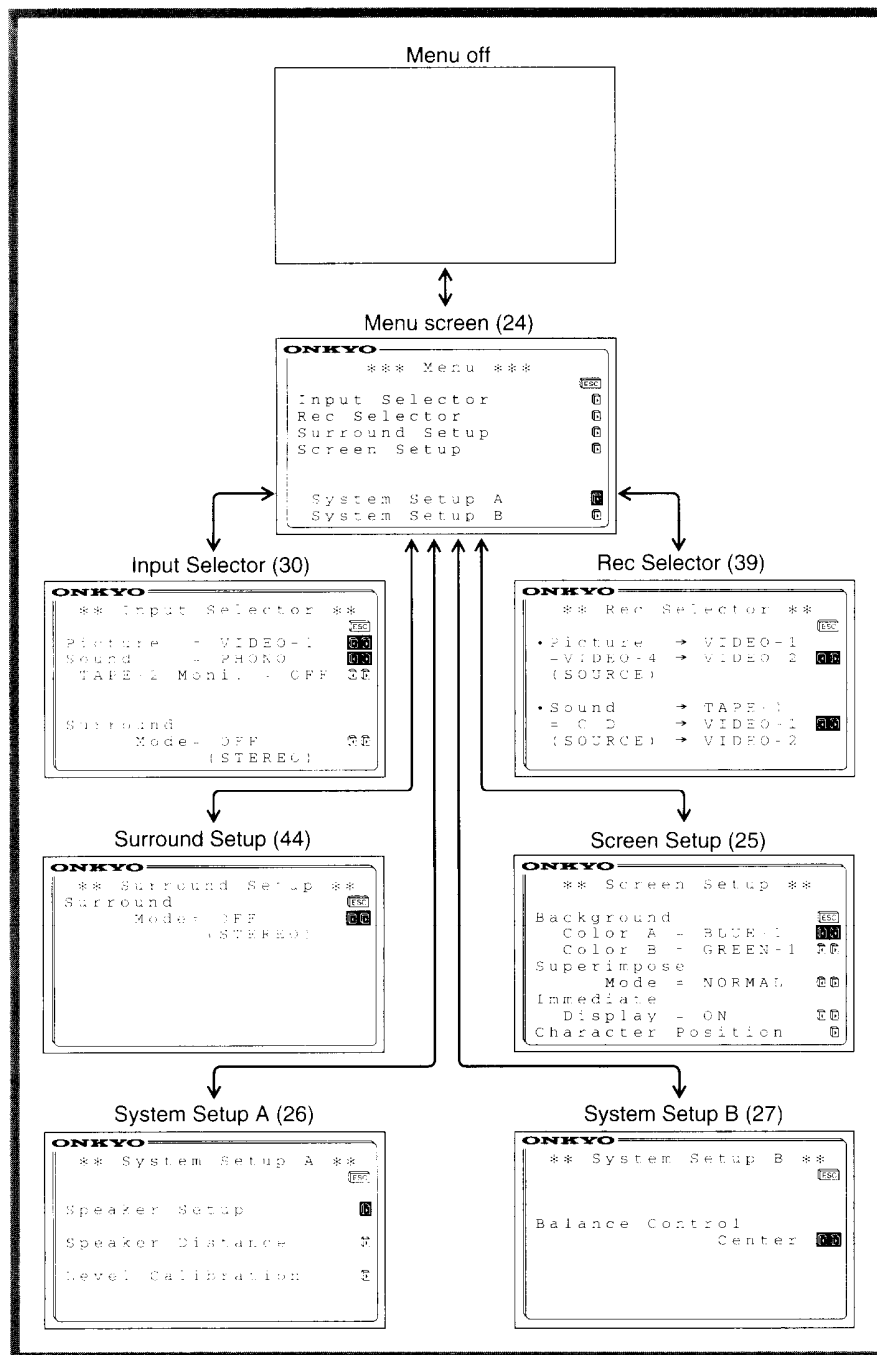
1. Press the ENTER button to display the main Menu screen.
2. Select the desired menu using the ▲ or ▼ cursor button.
3. Press the ► cursor button to display the screen of selected menu.
4. Select the desired parameter using the ▲ or ▼ cursor button and change the setting using the ◀ or ▶ cursor button.
5. After all of the desired settings have been entered, move the cursor to [ESC] in the screen and press the ENTER button on the remote controller to return to the main Menu screen.

NOTES:

- When a video source is playing, the video image appears behind the on-screen display. When nothing is being played, the on-screen display appears in front of the selected background color.
- The parameters in each screen differ depending on the Surround mode selected. Pressing the ◀ or ▶ cursor button while the cursor is positioned over certain items may display a sub-screen.
- When you move the cursor to [FADER] and press the ENTER button, the unit performs the selected command or enters the chosen mode.
- Since the on-screen display is output only at the MONITOR OUTPUT terminal, the display will not be recorded, even if an on-screen display appears on the TV/monitor.
- Be sure to select the correct input on the TV/monitor. (For example, if the cable connected to MONITOR OUTPUT is connected to the TV/monitor's VIDEO 1 INPUT, you must select VIDEO 1 for the TV/monitor.)
- When using an old TV that is not equipped with a video input, connect a VCR to see the on-screen display.



Using the On-screen display function



Screens

Please refer to the pages in parentheses for more information on each screen.

If you select certain settings for some parameters in the Surround Setup screen, other parameters may disappear or the cursor may skip them.

Screen Setup menu

When Screen Setup is selected, the following parameters appear on the on-screen display.

Background Color

You can select a background color from among 7 colors (Blue-1, Blue-2, Green-1, Green-2, Magenta, Red-1, or Red-2). Different background colors can be selected for System Setup A and System Setup B.

Note that the above color descriptions are standard. The actual colors may differ depending on the TV/monitor's tone and brightness settings.

When an image input signal is present, the input signal will be used as the background, and the background color you selected will not be displayed.

Superimpose Mode

You can set the on-screen display so that it will be easy to read when an image input signal is received. This parameter can be set to OFF, NORMAL, or BLACK.

Select OFF to display the background color behind the on-screen display characters. Select NORMAL to replace the background color with the image from the input signal.

If you select BLACK, the characters in the on-screen display appear in white in front of a black background.

Immediate Display

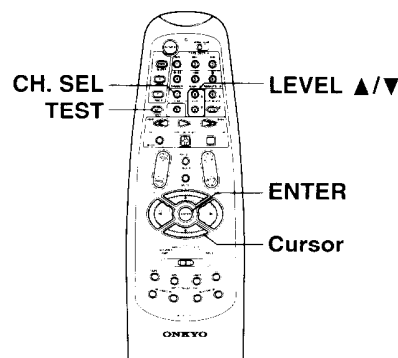
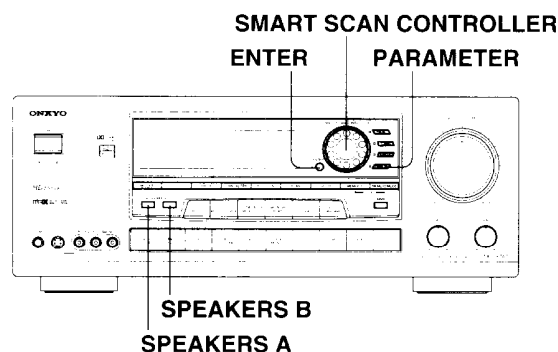
These characters appear on the TV/monitor screen for 3 seconds each time an operation is performed.

Select ON if you wish the immediate display to be shown, or OFF if you don't wish it to appear.

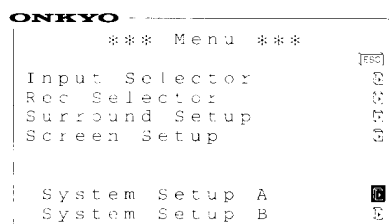
Character Position

You can move the position of the on-screen display up, down, left, or right within the screen.

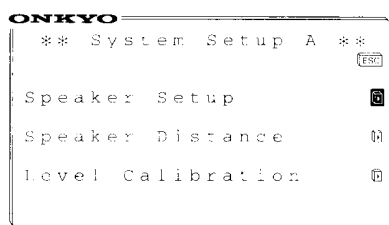
Setting up the speaker systems



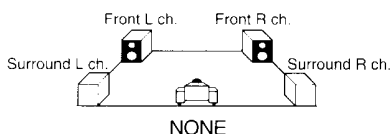
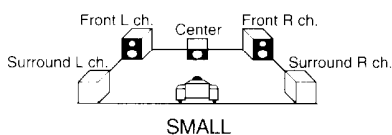
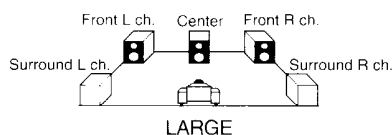
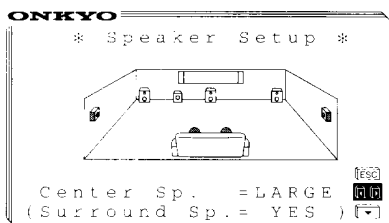
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2



3



System Setup A or B

If your speaker system is connected to the FRONT SPEAKERS-A, CENTER SPEAKER, and SURROUND SPEAKERS connectors on the rear panel, select System Setup A. If your speaker system is connected to the FRONT SPEAKERS-B connectors on the rear panel, select System Setup B.

- Use the System Setup screen to set the speaker parameters for all Surround modes. System Setup A and B have different parameters.
- Since all Surround modes share the same parameter settings, it is not necessary to set the parameters for each Surround mode separately.
- The FRONT SPEAKERS-B connectors are for use with normal stereo speakers, not surround speakers.

Setting System Setup A

Using the remote controller to set the parameters on-screen:

1. Press the ENTER button to display the Menu screen.
2. Press the ▲ or ▼ cursor button to select System Setup A from the Menu screen and press the ► cursor button. The System Setup A screen will appear.
3. Select the speakers to be connected, and specify their size. Follow the steps below.

- ① Press the ▲ or ▼ cursor button to select Speaker Setup in the System Setup A screen and press the ► cursor button. The Speaker Setup screen will appear.
- ② Press the ▼ cursor button to select a parameter. Press the ◀ or ▶ cursor button to change the current setting. You can change any of the following menu items.

Center Sp.: Select the size of your center speaker (LARGE, SMALL or NONE). Select LARGE only if your center speaker is similar in size and power handling to your main front speakers. When LARGE is selected, the high-pass filter is turned off and the center speaker output the full range.

Surround Sp.: Specify whether you are using surround speakers.

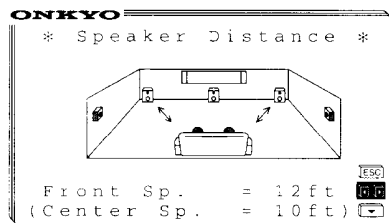
Subwoofer: Specify whether you are using a subwoofer.

- ③ To change additional Speaker Setup settings, press the ▲ cursor button to select **ESC** and press the ENTER button. You will return to the System Setup A screen.

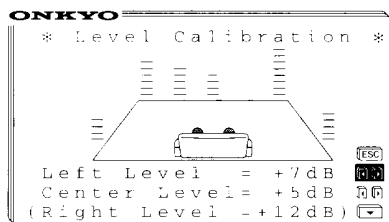
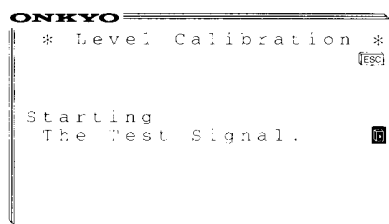
- After the settings are entered, "Completed!" appears on the screen, and two seconds later the System Setup screen appears. If the settings are not entered correctly, "Not Completed. Please Try Again." appears. Try entering the settings again.
- If the Surround Speakers parameter is set to NO, only OFF (STEREO) or DOLBY SURROUND can be selected as the Surround mode. If neither the center nor surround speakers are selected, you cannot use Surround mode, and the setting will remain OFF (STEREO).

Setting up the speaker systems

4



5



4. Set the Speaker Distance parameter to specify the distance between the speakers and the listener. Follow the steps below.

① Press the ▲ or ▼ cursor button to select Speaker Distance and press the ► cursor button. The Speaker Distance screen will appear.

② Press the ▼ cursor button to select a parameter. Use the ◀ and ▶ buttons to enter distance value for any of the following speakers. You can enter 0.3 - 9 meters or 1 - 30 feet.

Front Sp. : Enter the approximate distance between your normal listening position and one of the front speakers (left or right).

Center Sp.: Enter the approximate distance between your normal listening position and the center speaker.

Surround Sp. : Enter the approximate distance between your normal listening position and one of the surround speakers.

- The distance changes in meters (0.3 m steps) or feet (1 foot steps) when you press the ENTER button.

- The delay time is automatically set according to these distances.

③ To change additional Speaker Distance settings, press the ▲ cursor button to select [ESC] and press the ENTER button. You will return to System Setup A screen.

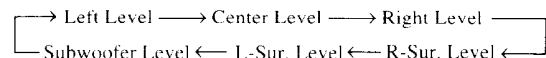
5. Adjust Level Calibration (relative volume levels), following the steps below:

① Press the ▲ or ▼ cursor button to select Level Calibration and press the ► cursor button. The Level Calibration screen will be displayed.

② Make sure that you select the "Starting the Test Signal" menu, and press the ► cursor button. The test tone sounds from the left front speaker.

③ Press the ▼ cursor button to select a speaker.

With each press of the button, the test tone moves to the next speaker in the following sequence:



- If you have set the parameter for one of the speakers to "NO", the corresponding speaker's test tone will not sound.

④ Use the ◀ and ▶ buttons to adjust the volume between -12 dB (decibels) and +12 dB.

- The test signal will automatically turn itself off if an adjustment is not made within 2 minutes.

⑤ Repeat steps ③ and ④ to adjust the volume of each speaker until a test tone of the same volume level sounds from each speaker.

⑥ To complete Level Calibration adjustments, press the ▲ cursor button to select [ESC] and press the ENTER button.

Using the receiver to set the parameters:

Follow the procedure below when using the buttons on receiver to setup the speakers:

When the SPEAKERS A indicator is lit on the display, press the PARAMETER button.

The PARAMETER indicator lights up.

If the SPEAKERS A indicator is not lit, press the SPEAKERS A button.

Rotate the SMART SCAN CONTROLLER to the right or left until "System Setup A" appears on the display.

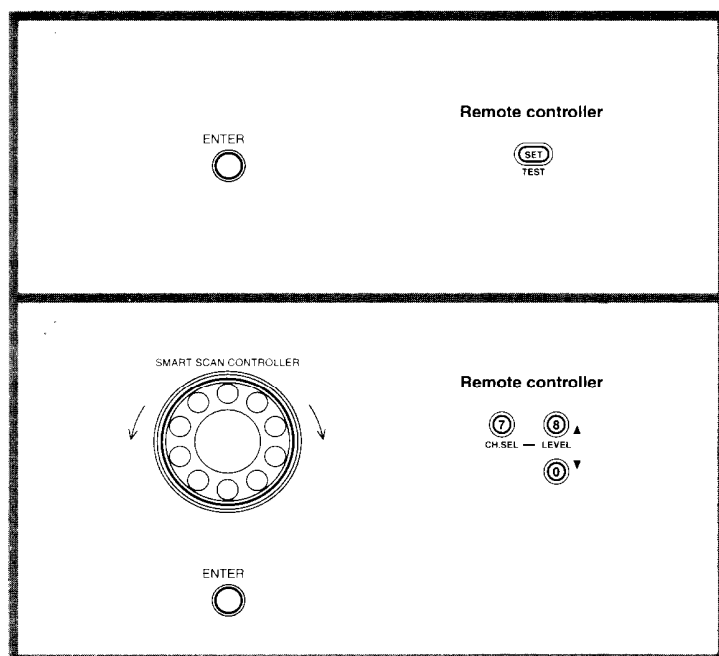
Press the ENTER button to select Speaker Setup.

Use the ENTER button to select a parameter, then use the SMART SCAN CONTROLLER to select an appropriate setting. Press the ENTER button to enter the desired settings.

Press the ENTER button to select Speaker Distance.

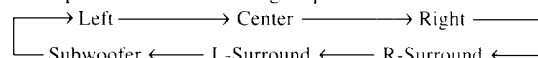
Use the ENTER button to select a parameter, then use the SMART SCAN CONTROLLER to select an appropriate setting. Press the ENTER button to enter the desired settings.

Setting up the speaker systems



Press the ENTER button to select Test Signal.

Press the ENTER button. The test tone sounds first from the left front speaker, then automatically moves to the next speaker in the following sequence.



- You can also press the TEST button on the remote controller to make the sound of the test signal.
- If you have set the parameter for one of the speakers to "NO", the corresponding speaker's test tone will not sound.

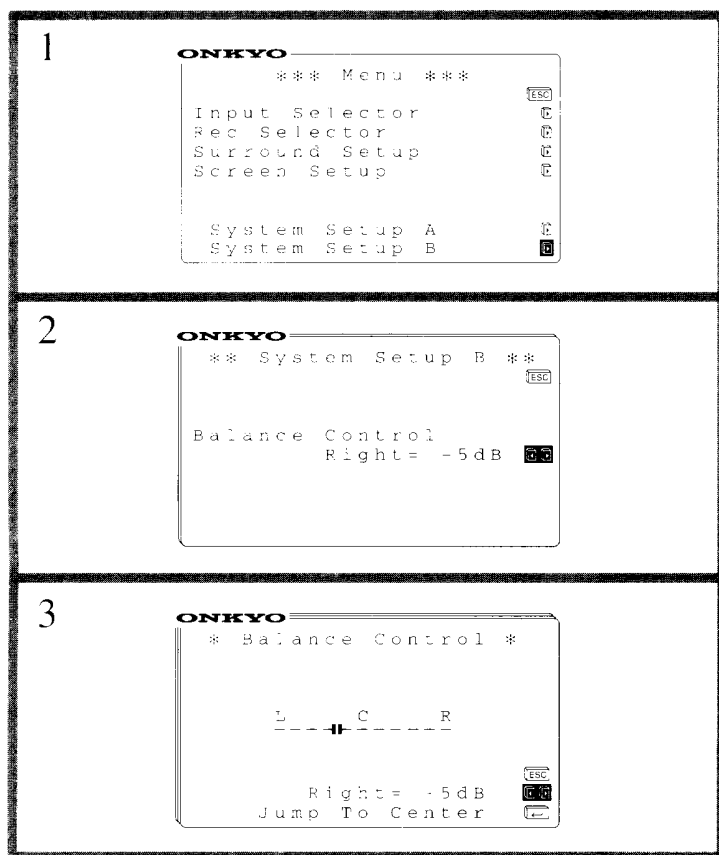
Rotate the SMART SCAN CONTROLLER to the right to select a speaker and press the ENTER button.

Use the SMART SCAN CONTROLLER to adjust the speakers to a desired level. The speaker level will increase when you rotate the controller to the right, and decrease when you rotate it to the left.

- You can also use the remote controller for this step: Press the CH.SEL button to select a speaker and press the LEVEL ▲ and ▼ buttons to adjust the level.

Repeat step 2 to adjust all speaker levels until the test signal level sounds the same from all speakers.

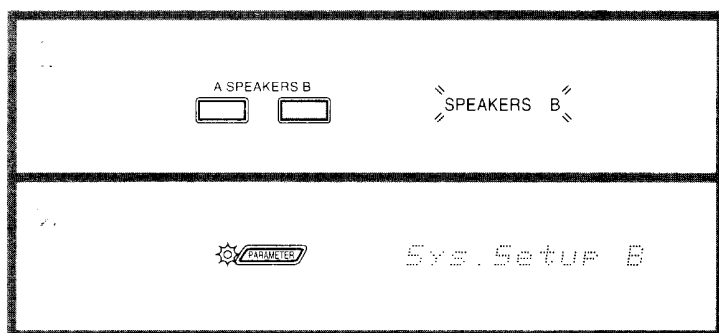
After all parameters have been set, rotate the SMART SCAN CONTROLLER to the left.



Setting System Setup B

Using the remote controller to set the parameters on-screen:

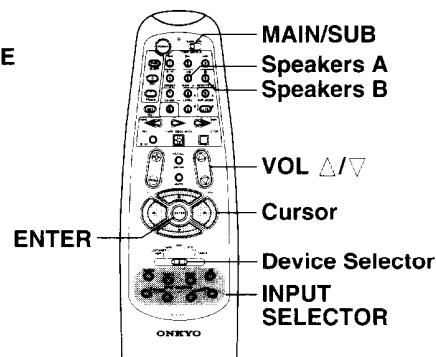
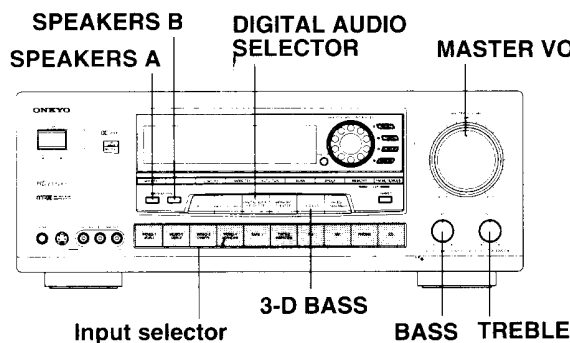
- Press the ENTER button to display the Menu screen.
 - Press the ▲ or ▼ cursor button to select System Setup B from the Menu screen and press the ► cursor button. The System Setup B screen will appear and indicate the balance control conditions.
 - If you need to change the parameter, press the ◀ or ▶ button to display the Balance Control screen.
 - Press the ◀ or ▶ cursor button to adjust the speaker balance. The balance is normally set to Center. If you press the ▼ cursor button to select [C] and press the ENTER button, the balance will be immediately set to the Center position.
 - To complete the Balance Control adjustment, press the ▲ cursor button to select [ESC] and press the ENTER button. You will return to the System Setup B screen.
- When System Setup B is selected, Surround mode is automatically set to OFF (STEREO).



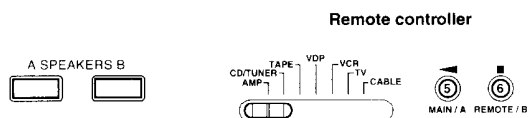
Using the receiver to set the parameters:

- Press the SPEAKERS B button to turn on the SPEAKERS B indicator on the display.
- Press the PARAMETER button. The PARAMETER indicator lights up and "System Setup B" appears on the display.
- Press the ENTER button to select Balance Control.
- Use the SMART SCAN CONTROLLER to adjust the desired speaker balance.
- To complete the Balance Control adjustment, press the ENTER button.

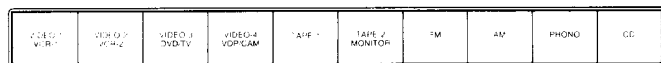
Basic operations



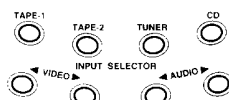
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2



Remote controller

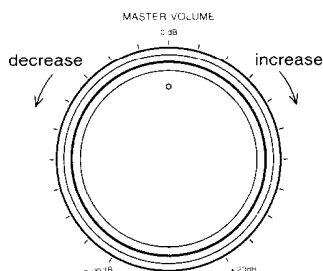


3

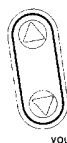


DIGITAL 2

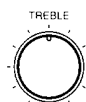
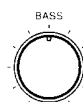
5



Remote controller



6



Listening to your favorite source

Using the receiver:

1. Press the SPEAKERS A or B button to select the desired speakers.

The corresponding SPEAKERS A or B indicator lights up.

2. Press the input selector button for the desired source.

The name of the selected source will appear on the display. For FM or AM reception, the band and the frequency will also appear.

To play the selected source in Surround mode, refer to pages 44 to 46.

3. Press the DIGITAL AUDIO SELECTOR button to select the appropriate setting.

When the CD player, DAT deck, or other component is connected to a DIGITAL INPUT connector, you can choose whether the signal from that component will be digital or analog.

The digital input mode indicator on the display corresponding to the selected input mode lights up. If the analog signal is selected, all digital input mode indicators go off.

Please refer to "Digital audio connections" on page 14 for more details.

4. Start playing the selected input source.

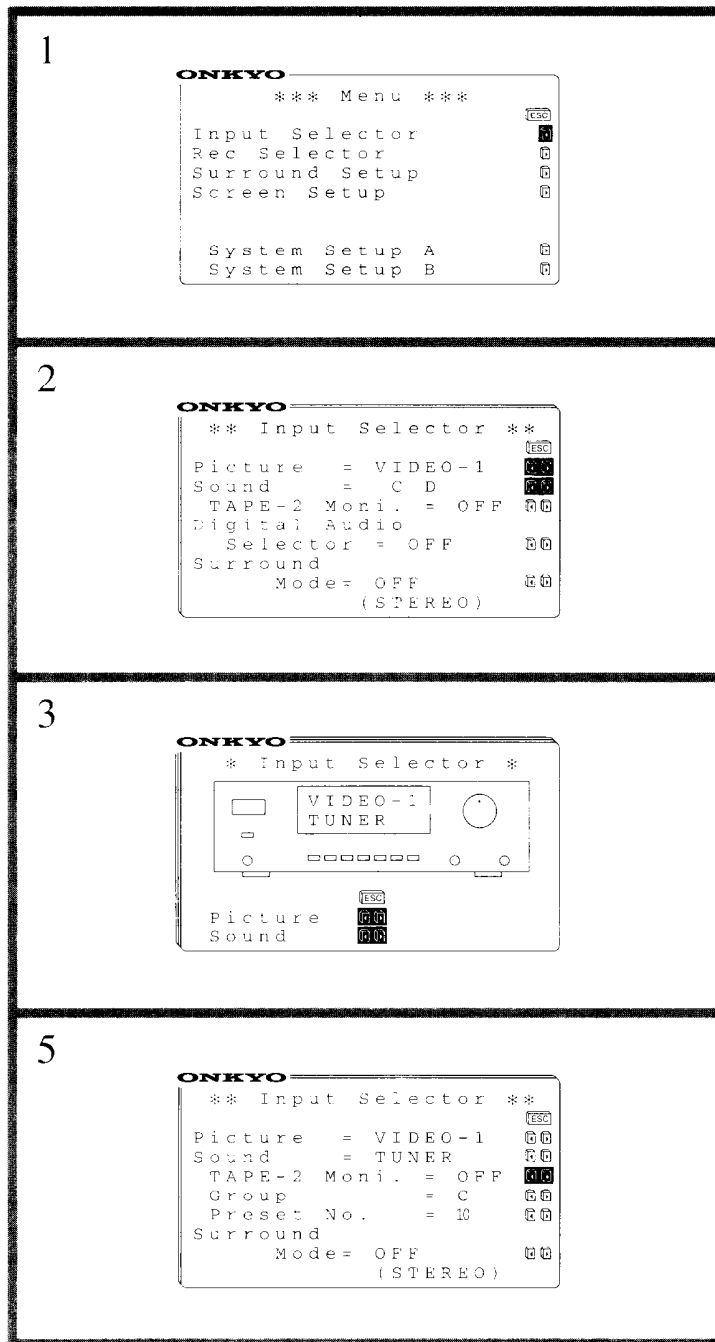
Follow the operating instructions of the source unit.

5. Adjust the volume to an appropriate level using the MASTER VOLUME control knob on the main unit or the VOL Δ (up)/ ▽ (down) button on the remote controller.

6. Adjust the tone controls.

- When you use the remote controller in the steps above, set the MAIN/SUB selector switch on the remote controller to MAIN.
- Make sure that the MUTE indicator is not lit and that the T-2 MONITOR indicator is not lit when a source other than TAPE-2 MONITOR is selected.
- Refer to pages 44 to 46 for more details on playing the selected source in Surround mode.

Basic operation



Using the remote controller to set parameters on-screen:

First, select the desired speakers by pressing the SPEAKERS A or B button.

1. Press the ENTER button to display the Menu screen. Press the ▲ or ▼ cursor button to select the Input Selector menu and press the ► cursor button. The Input Selector screen will be displayed.
2. Press the ▲ or ▼ cursor button to select Picture and Sound. Then press the ◀ or ▶ cursor button to display the Picture and Sound setting screen of the Input Selector.
3. Press the ▲ or ▼ cursor button to select Picture and/or Sound. Press the ◀ or ▶ cursor button to select the desired input source.

Picture: Specifies the input source of the picture.

Sound: Specifies the input source of the sound.

- When you press the ◀ or ▶ cursor button while cursors are on both Picture and Sound, you can change both parameters at the same time. However, if any setting other than VIDEO-1 through -4 is selected for the Sound parameter, the Picture setting remains unchanged and only the Sound parameter changes.
4. To complete Picture and Sound settings, press the ▲ cursor button to select **[ESC]** and press the ENTER button. You will return to the Input Selector screen.
 5. Press the ▲ or ▼ cursor button to select the desired input source parameter. Press ◀ or ▶ cursor button to change the current setting.

TAPE-2 Moni.: Switches on and off the sound input from the component connected to the TAPE-2 connectors. Keep this parameter set to OFF when TAPE-2 is not used.

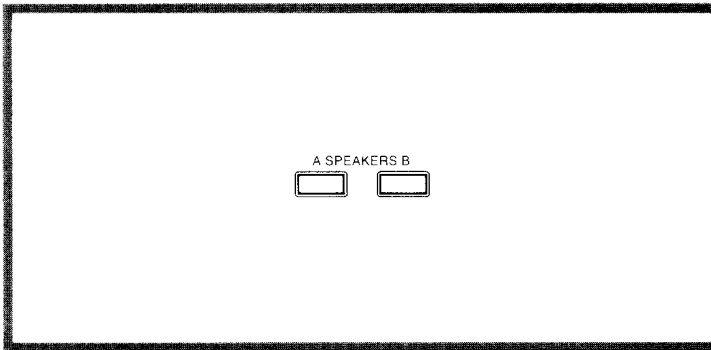
Digital Audio Selector: Specifies whether the signal from the component connected to one of the DIGITAL INPUT connectors will be digital or analog. (Refer to pages 14 and 29 for more details.)

Surround Mode: Specifies the Surround mode.

6. To complete Input Selector settings, press the ▲ cursor button to select **[ESC]** and press the ENTER button.
7. Follow the operating instructions for the selected unit to start playback.

If TUNER is selected as the Sound input source, refer to "Tuning broadcasting stations" on page 32 for more details.

Basic operations



SPEAKERS selector

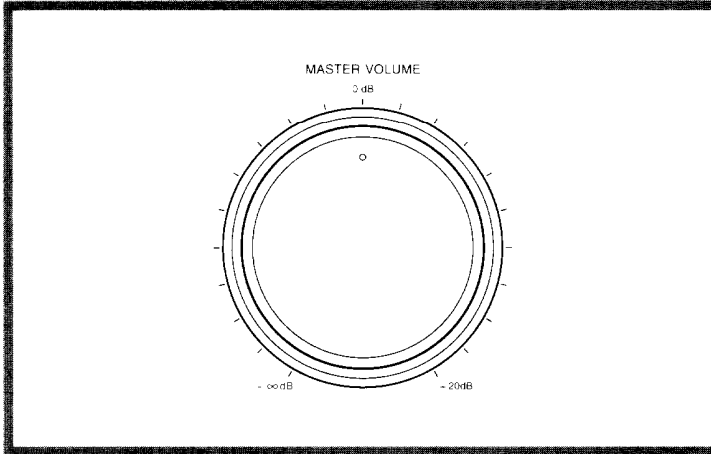
SPEAKERS A: This button turns on or off the speakers connected to the FRONT SPEAKERS-A, CENTER SPEAKER, and SURROUND SPEAKERS connectors.

When the speakers are turned on, the SPEAKERS A indicator lights up.

SPEAKERS B: This button turns on or off the speakers connected to the FRONT SPEAKERS-B connectors.

When the speakers are turned on, the SPEAKERS B indicator lights up.

- Speakers A and B cannot be used at the same time.



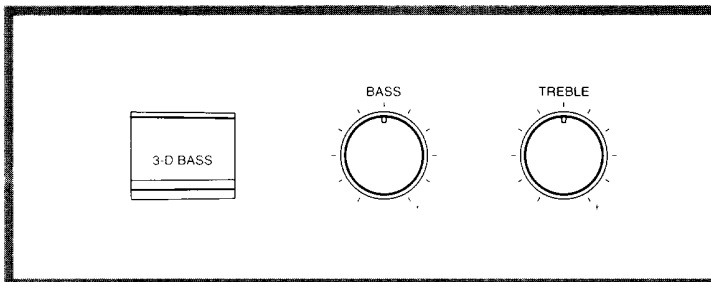
MASTER VOLUME control

The MASTER VOLUME control knob adjusts the volume of the front, center, and surround speakers and the PRE OUT outputs simultaneously. Turning it clockwise increases the volume. You can also adjust the volume using the remote control's VOL / buttons.

The Master Volume level settings shown on the display are: -∞ dB (minimum), -58 ~ -1, 0, +1 ~ +20 dB (maximum).

Depending on the calibration, it may be impossible to set the Master Volume level to +20 dB. Even if the knob is manually turned to its maximum, it will return to its highest possible setting.

The MASTER VOLUME control does not affect the MULTI SOURCE PRE OUT. Use the remote controller to adjust the multi-source level.



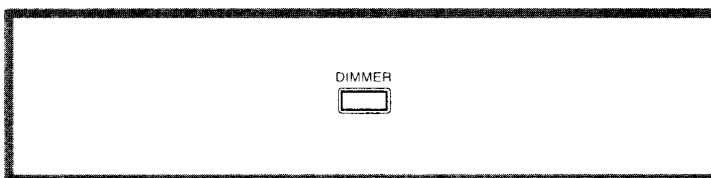
Adjusting the tone

BASS: Adjust to strengthen or weaken bass response.

TREBLE: Adjust to strengthen or weaken treble response.

3-D BASS: This button is used to clearly reproduce ultra low frequency. When this button is pressed, the 3-DB indicator lights up. 3-D BASS can be used with all surround modes.

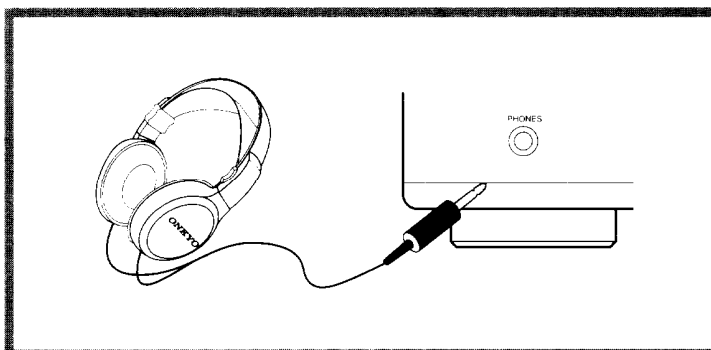
- The 3-D BASS, BASS, and TREBLE controls only affects the left/right Front and Center speakers.



DIMMER button

Use this button to change the brightness of the display. The brightness changes to bright, medium, dim, or off.

If a function is set with the display turned off, the display will light up for a few seconds, then go off.

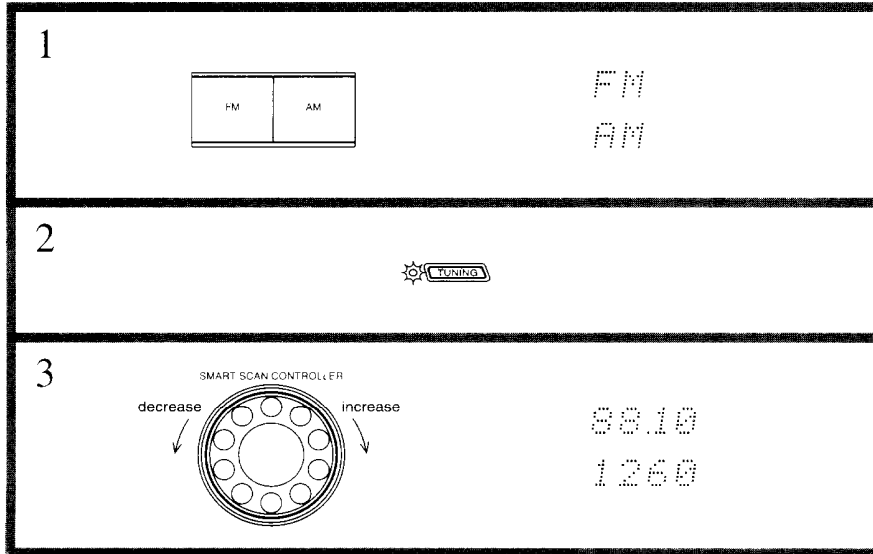
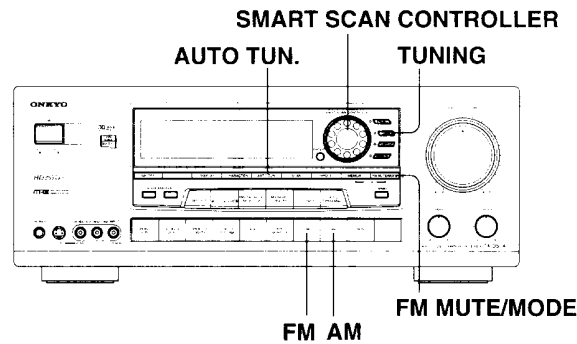


Headphones

Headphones with a standard stereo plug can be inserted into the PHONES jack.

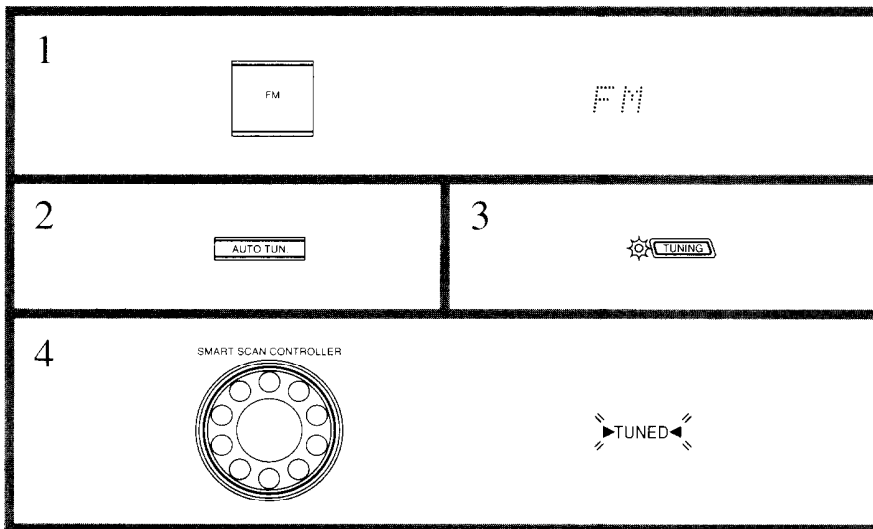
When the headphones plug is inserted into the PHONES jack, SPEAKERS A and B are turned off and the Surround mode automatically switches to OFF (STEREO).

Tuning broadcasting stations



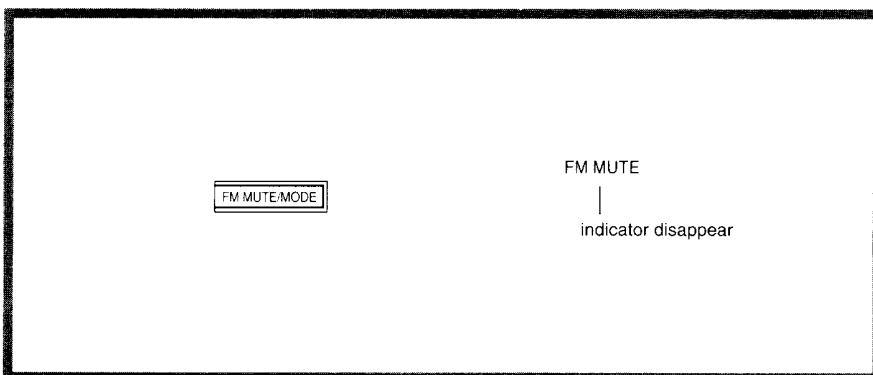
Manual tuning

1. Press the FM or AM button.
 2. Press the TUNING button.
The TUNING indicator lights up.
 3. Select the frequency of your favorite broadcasting station using the SMART SCAN CONTROLLER.
The frequency will increase when you rotate the SMART SCAN CONTROLLER clockwise and decrease when you rotate it counterclockwise.
The TUNED indicator lights up on the display when the broadcasting station is properly tuned in.
- The frequency is changed in 50kHz steps in FM and 10kHz steps (or 9kHz, depending on the area where the receiver is used) in AM.



Auto-tuning in FM

1. Press the FM button.
 2. Press the AUTO TUN. button.
The AUTO indicator will light up on the display.
 3. Press the TUNING button.
The TUNING indicator lights up.
 4. Rotate the SMART SCAN CONTROLLER clockwise (the frequency increases) or counterclockwise (the frequency decreases).
The frequencies are scanned automatically and tuning automatically stops when a broadcast is received. The TUNED indicator will light up.
- Note that the Auto tuning can be used only for FM stations.

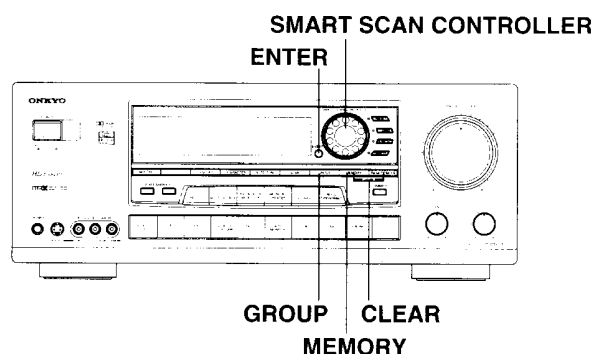


Listening to stereo radio stations (FM mode)

When you tune in a stereo FM station, the STEREO indicator lights up if the signal is sufficiently strong. If the signal is weak, your desired station may not be tuned in. In this case, tune as follows:

1. Press the FM MUTE/MODE button.
The FM MUTE indicator will turn off.
The broadcast will be heard in mono, and intersection noise can be heard.
2. Select the station you want to listen to.

Using preset stations



2

MEMORY

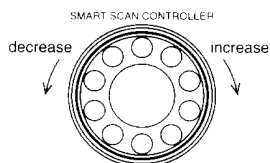
MEMORY

3

GROUP

B --- ch

4



B 3 ch

5

ENTER

To enter a station in memory

1. Select the frequency that you want to store in the memory.

(See "Tuning broadcasting stations" on page 32)

2. Press the MEMORY button.

The MEMORY indicator will light up for 8 seconds.

3. While the MEMORY indicator is lit, press the GROUP button repeatedly until the desired group is selected.

The group shown on the display changes in the following order each time the button is pressed: A → B → C → D → A

4. Select the desired preset memory number using the SMART SCAN CONTROLLER.

Rotating the SMART SCAN CONTROLLER clockwise will increase the memory number, and rotating it counterclockwise will decrease the number.

5. Press the ENTER button to enter the desired preset memory number.

- Since ten AM or FM stations can be stored in each group (A, B, C or D), a total of 40 stations can be stored in the memory.
- If the received FM broadcasting station is an RDS station with PS (Program Service Name) broadcasts, the name of the broadcasting station is displayed instead of the frequency. If there is no PS, the frequency is displayed. Refer to page 36 for the RDS function. (Only the European models feature the RDS function.)

Cancelling the preset stations

1. Select the station you want to cancel.

Refer to "Recalling preset stations" on page 34.

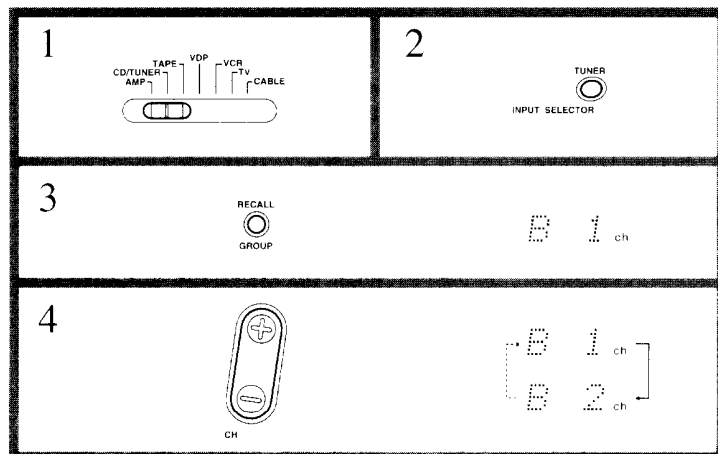
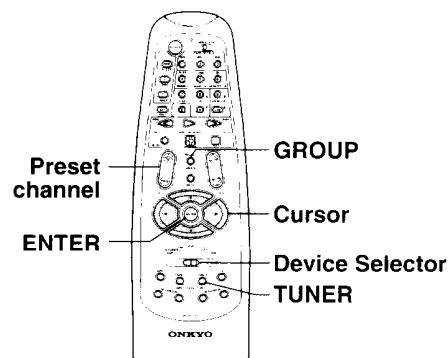
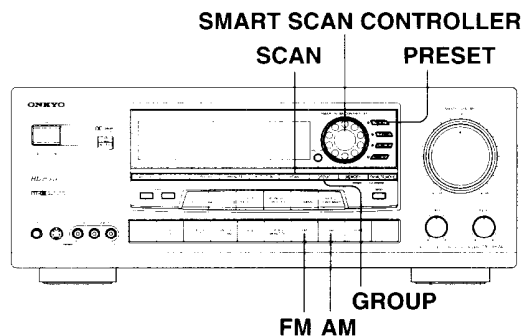
2. Press the FM MUTE/MODE button while holding down the MEMORY button. "—" will appear on the display.

- Once the preset station has been cancelled, the memory location can be used to store another station.

MEMORY FM MUTE/MODE

B --- ch

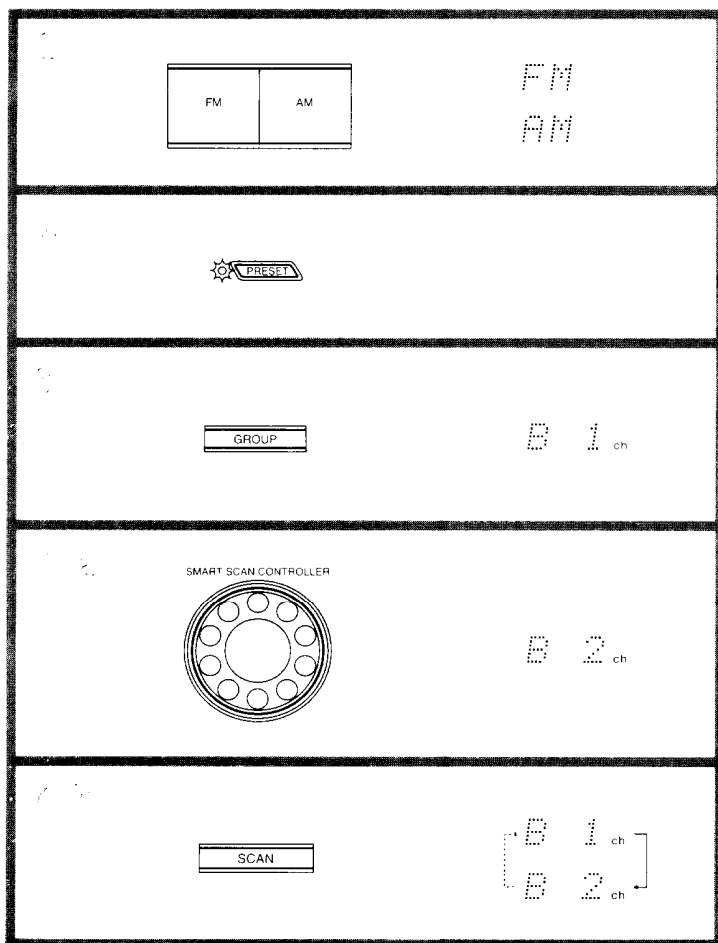
Using preset stations



Recalling preset stations

Using the remote controller:

1. Set the device selector switch to the CD/TUNER position.
2. Press the TUNER button in the INPUT SELECTOR area.
3. Press the GROUP button until the desired group is displayed.
4. Press the CH (up) or (down) button.



Using the receiver:

Press the FM or AM button.

Press the PRESET button to turn on the PRESET indicator.

Press the GROUP button repeatedly until the desired group is displayed.

Input the memory number you wish to receive by using the SMART SCAN CONTROLLER.

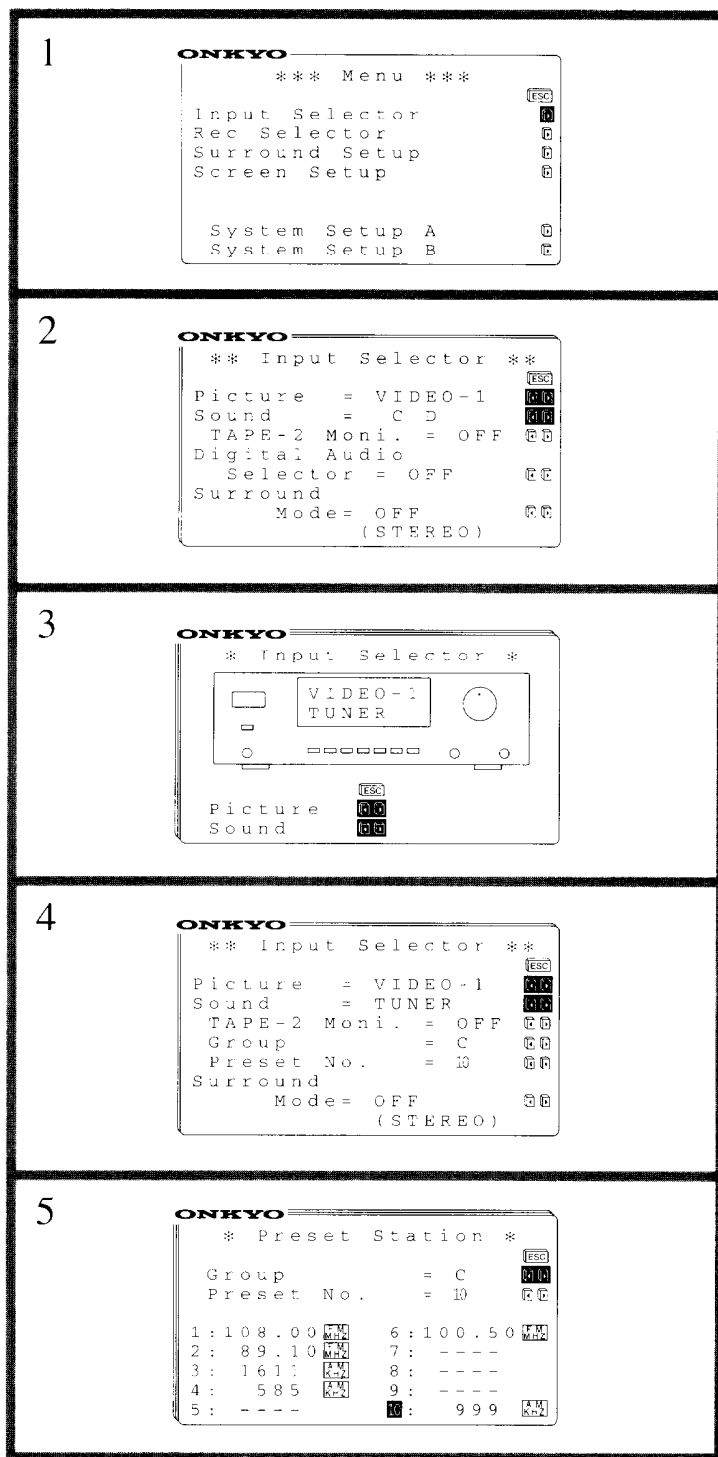
OR,

Press the SCAN button.

Each station stored in the selected group will be received for 5 seconds (for each station).

When the desired station is found, press the SCAN button again and scanning will stop.

Using preset stations



Using the remote controller to set parameters on-screen:

1. Press the ENTER button to display the main Menu screen.
Press the ▲ or ▼ cursor button to select the Input Selector menu and press the ► cursor button.
The Input Selector screen will be displayed.
 2. If TUNER is not selected as the Sound source, press the ▲ or ▼ cursor button to move the cursor to Sound, and then press the ◀ or ▶ cursor button to display the Picture and Sound screen of the Input Selector setting.
 3. Press the ◀ or ▶ cursor button to select TUNER.
Press the ▲ cursor button to select **ESC** and press the ENTER button.
The Input Selector screen will be displayed.
 4. Press the ▲ or ▼ cursor button to select Group or Preset No. and press ◀ or ▶ cursor button.
The Preset Station screen will be displayed, with the preset frequencies in the selected group indicated.
 5. Change the Group and Preset No. parameters to select the desired station using the ◀ or ▶ cursor button.
 6. To recall the desired Preset Station, press the ▲ cursor button to select **ESC** and press the ENTER button.
- If no radio stations are stored in memory, a group and preset number cannot be selected.
Refer to "To enter a station in memory" on page 33 for more details.

Receiving RDS broadcasts (European models only)

RDS reception is available only on the European model, and only in areas where RDS broadcasts are available.

What is RDS?

Many FM broadcasting stations now transmit RDS signals which provide additional information. RDS provides you with various services so that, for example, you can choose a station broadcasting your favorite categories of music or other information. (Refer to the right column for information details.)

PS: Program Service Name

When an RDS station broadcasting PS information is selected, the station's name is displayed instead of the frequency.

PTY: Program Type

When an RDS station broadcasting PTY information is selected, the station type (classification) is displayed.

TP: Traffic Program

When an RDS station broadcasting TP information is selected, the traffic information is displayed.

RT: Radio Text

When an RDS station broadcasting RT information is selected, the information received from the station is displayed.

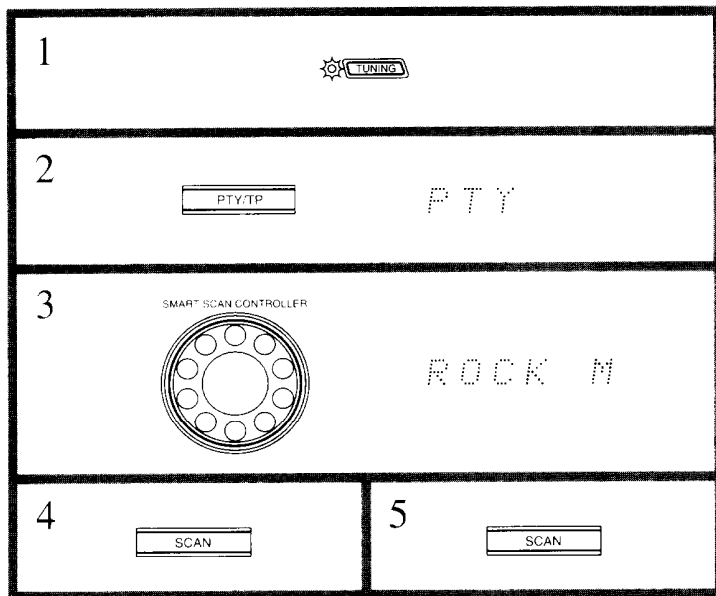
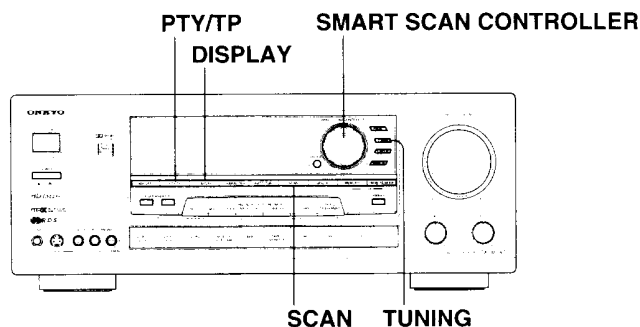
NOTE:

In some cases, the characters displayed on the TX-DS747's display may not be exactly the same as the ones broadcast by the radio station. Unusual characters may appear on the display if the TX-DS747 receives characters that cannot be displayed correctly. This is not a malfunction.

PTY Classifications in Europe

NONE	None	No program type.
NEWS	News reports	Reports on current events and happenings.
AFFAIRS	Current affairs	Topical reporting of current affairs, often with a wider range of topics than news reports.
INFO	Information	General information such as whether forecasts, consumer affairs, medical help etc.
SPORT	Sport	Live sports action, sports news, and interviews.
EDUCATE	Education	Formal educational programs.
DRAMA	Drama	Radio plays and serials.
CULTURE	Culture	Cultural programs (including religious affairs).
SCIENCE	Science and technology	Programs about the natural sciences and technology.
VARIED	Varied	Speech-based programs not covered by the above categories (e.g., quizzes, panel games, comedy, etc.).
POP M	Pop music	Popular commercial music, usually from past or present sales charts (e.g., Top 40).
ROCK M	Rock music	Popular music with an alternative appeal, often not appearing on sales charts.
M.O.R. M	Middle of the road music	Easy listening music (as opposed to Pop, Rock or Classical).
LIGHT M	Light classics	Classical music for general rather than specialist appreciation.
CLASSICS	Serious classics	Performances of major orchestral works, symphonies, chamber music etc., including Grand Opera.
OTHER M	Other music	Music styles not covered by the above categories, e.g. Jazz, Rhythm & Blues, Folk, Country, Reggae.
ALARM	Alarm	When an RDS station is making an emergency broadcast, this ALARM will flash on the display.

Receiving RDS broadcasts (European models only)



Searching for a station of your favorite program type (PTY scan)

If the selected station is not broadcasting RDS signals, this function cannot be used.

1. Press the **TUNING** button to turn on the indicator.
2. Press the **PTY/TP** button repeatedly until "PTY" appears on the display.

If "Not RDS" appears on the display, the selected station is not an RDS station.

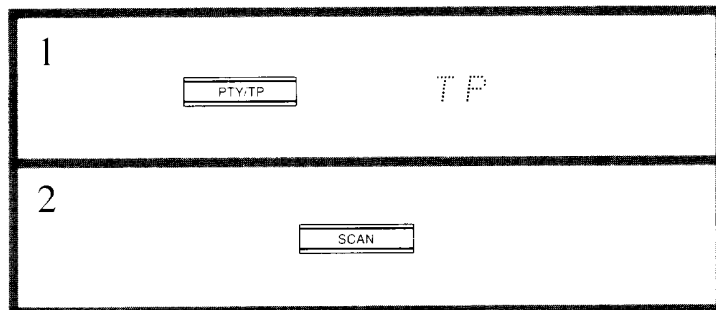
3. Rotate the **SMART SCAN CONTROLLER** clockwise or counterclockwise to select the program type (PTY), for example "ROCK M".

Refer to the explanation on PTY on the previous page.

4. Press the **SCAN** button to start searching for stations of the desired program type.

When a station of the desired program type is received, scanning stops for approximately 5 seconds, then resumes.

5. When the desired station is found, press the **SCAN** button again to stop scanning.

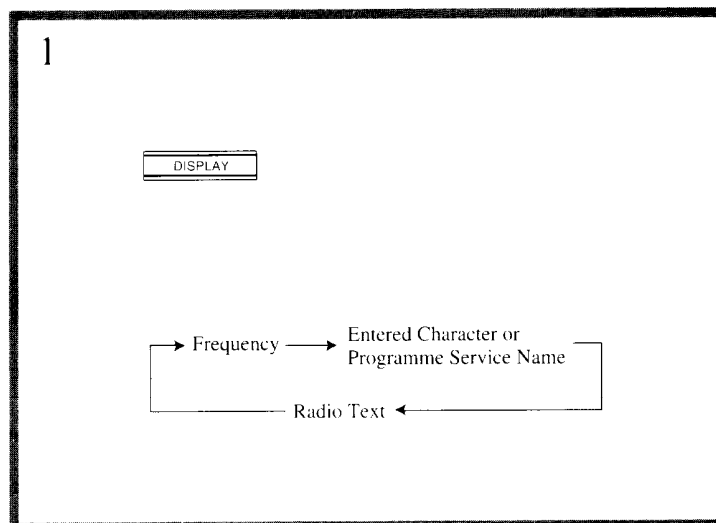


Searching for traffic information (TP scan)

If the selected station is not broadcasting RDS signals, this function cannot be used.

1. Press the **PTY/TP** button repeatedly until "TP" appears on the display.
2. Press the **SCAN** button to start searching for other TP stations.

When a station broadcasting traffic information is found, scanning stops. If "Not find" appears on the display, a TP station cannot be found.



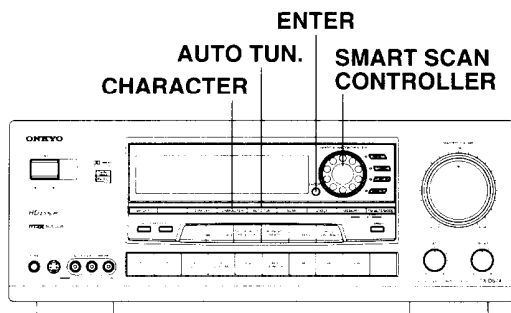
Displaying Radio Text (RT)

If the selected station is not broadcasting RDS signals, this function cannot be used.

1. Each time you press the **DISPLAY** button, the displayed RDS information changes as shown on the left.

- If the current station you are listening to is not an RDS station, only the frequency or the entered characters appear. If no characters have been entered, only the frequency is displayed. (Refer to "Entering characters" on page 38 for more details.)
- When RT signals are received, it takes about 15 seconds for the Radio Text to appear on the display.
- If "WAIT" appears on the display, more time is required to receive the RT information. When the information is received, the characters will scroll across the display.
- If "NO TEXT" appears on the display for 3 seconds, RT information is not available.

Entering characters



While receiving a preset FM or AM station, a maximum of 8 characters consisting of letters, numbers, and some symbols can be stored. For example, they could represent the station name.

Note for European model: If you attempt to enter characters for an FM station broadcasting RDS information, "RDS...PS" is displayed and characters cannot be entered.

Characters which can be entered:

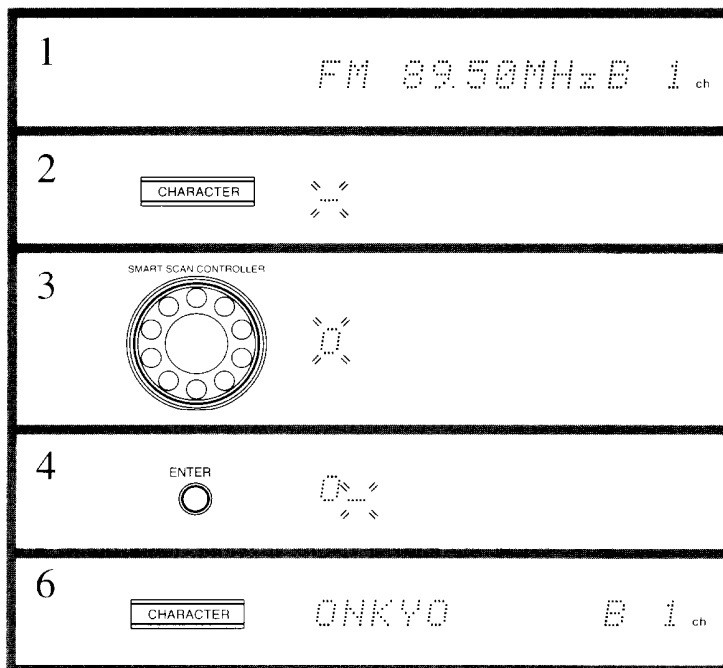
A B C D E F G H I J K L M N O P Q R S T U
V W X Y Z " & ' () * + , - . / = ? [\]
| 0 1 2 3 4 5 6 7 8 9 _

Note: _ indicates a space.

Entering characters

As an example, assume an FM station with a frequency of 89.50 MHz has been stored in preset number 1 ch of group B and will be given the name "ONKYO".

- Select the desired station.**
Please refer to "Recalling preset stations" on page 34.
 - Press the CHARACTER button.**
The frequency indication disappears and the cursor (_) flashes.
 - Rotate the SMART SCAN CONTROLLER to the right or left until "O" appears on the display.**
 - Press the ENTER button to enter the "O" letter.**
" _ " will move to the next position.
 - Continue using the SMART SCAN CONTROLLER and the ENTER button to enter the "N" "K" "Y" and "O" letters following step 3 and 4.**
 - Press the CHARACTER button once again to store the entered characters.**
If you have not pressed a button for 16 seconds, the operation will be automatically completed.
- Press the DISPLAY button if you wish to check the frequency during the process of entering the characters.

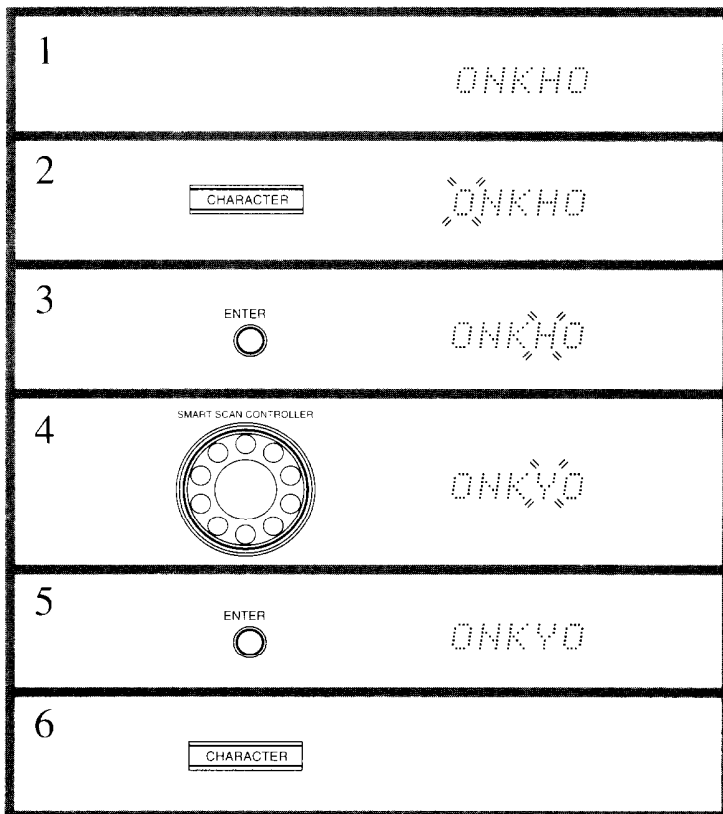


Changing an entered character

- Select the station whose name you wish to change.**
Please refer to "Recalling preset stations" on page 34.
- Press the CHARACTER button.**
The first character and cursor flash alternately.
- Press the ENTER button to move the cursor to the character that you want to change.**
- Select the character you wish to change using the SMART SCAN CONTROLLER.**
To delete a character, press the AUTO TUN. button. The character is deleted, and the characters to the right move one place to the left.
- Press the ENTER button to enter the desired character.**
The previous character is replaced with a new character.
- Press the CHARACTER button to store the character.**

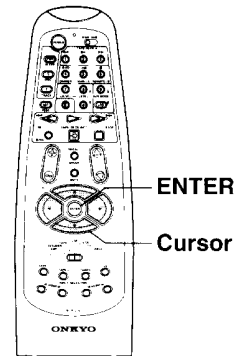
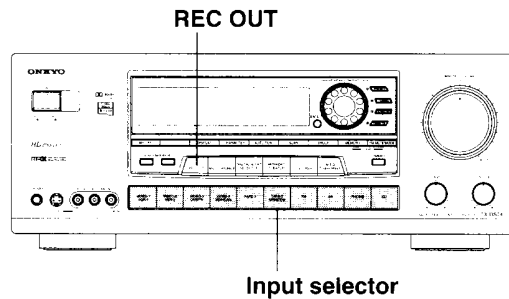
Clearing all characters

- Select the station whose name you wish to clear.**
Please refer to the "Recalling preset stations" on page 34.
- Press the CHARACTER button.**
- While holding down the MEMORY button, press the FM MUTE/MODE button.**
All the characters entered for the selected station are cleared.

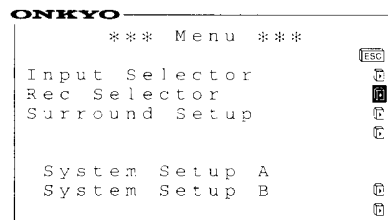


Recording a source

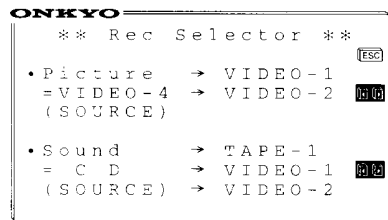
You can use the TX-DS747 to record either the source you are currently listening to or watching, or a different source. Check that the components are connected to the TX-DS747 as shown in "Audio equipment connections" and "Video equipment connections" on pages 12 to 15. If the Multi-Room System equipment is connected, make sure that the MR OFF indicator is lit while recording.



1



2



Listening to or watching a source while recording it

Using the remote controller to set parameters on-screen:

1. Press the ENTER button to display the Menu screen. Move the cursor to Rec Selector and press the ► cursor button. The Rec Selector screen appears.

2. Move the cursor to Picture and/or Sound. Use the ◀ or ► cursor button to select the component with "(SOURCE)" displayed below it on the left side of the screen.

The components that can record it will appear on the right side.

The component indicated as "(SOURCE)" is the currently selected input source. If a different component is selected in the Input Selector screen or by pressing an input selector button, "(SOURCE)" will appear below the name of the newly selected component.

In the screen shown on the left, the currently selected video source is VIDEO-4 and it can be recorded by VIDEO-1 or -2; the currently selected sound source is the CD player and it can be recorded by TAPE-1 or VIDEO-1 or -2.

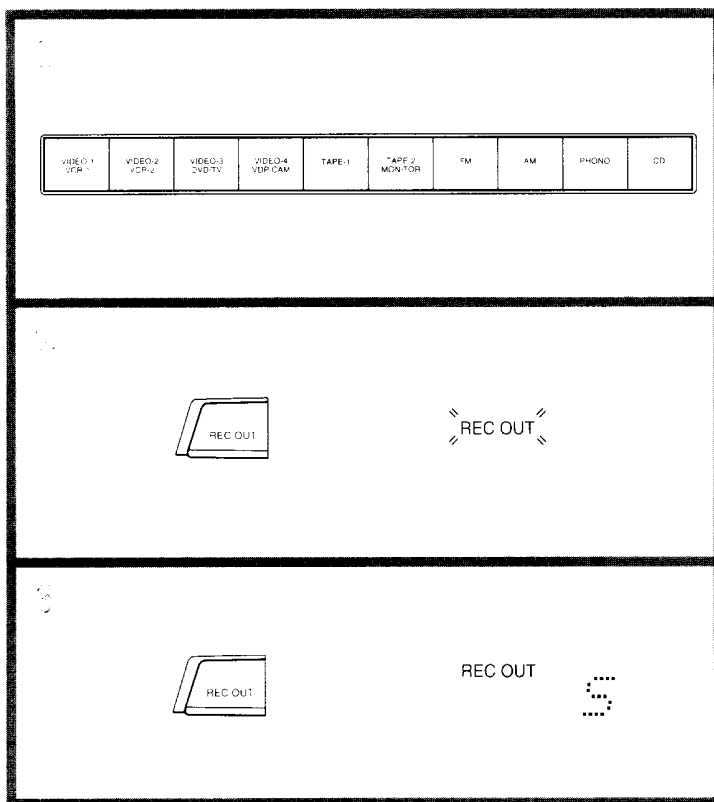
Picture: Indicates which video source is available for playback and which components are available for recording.

Sound: Indicates which sound source is available for playback and which components are available to record.

3. Start recording on the recording component, then start playing the selected source.

Using the on-screen display, you can specify a different component for Picture and Sound.

Recording a source



Using the receiver:

1. Press an input selector button to select the desired source.
2. Press the REC OUT button.
The REC OUT indicator will flash for 8 seconds.
3. Press the REC OUT button again while the REC OUT indicator is flashing.
The "S" (source) will be shown in the right corner of the display.
4. Start recording on the recording component, then start playing the selected source.

NOTE:

- Do not adjust any controls on the TX-DS747 after starting the recording operation.
- Pressing an input selector button while recording will change the source being recorded.
- When the T-2 MONITOR indicator is lit, only the TAPE-2 source can be recorded. Even if a different input selector button is pressed, the T-2 MONITOR indicator will remain lit.
- Certain combinations of video input and output connections will allow sound recording, but not picture recording. An input connected to the standard video connector cannot be recorded from the S connector. Be sure to check the video connections before recording. (Refer to pages 13 and 15.)

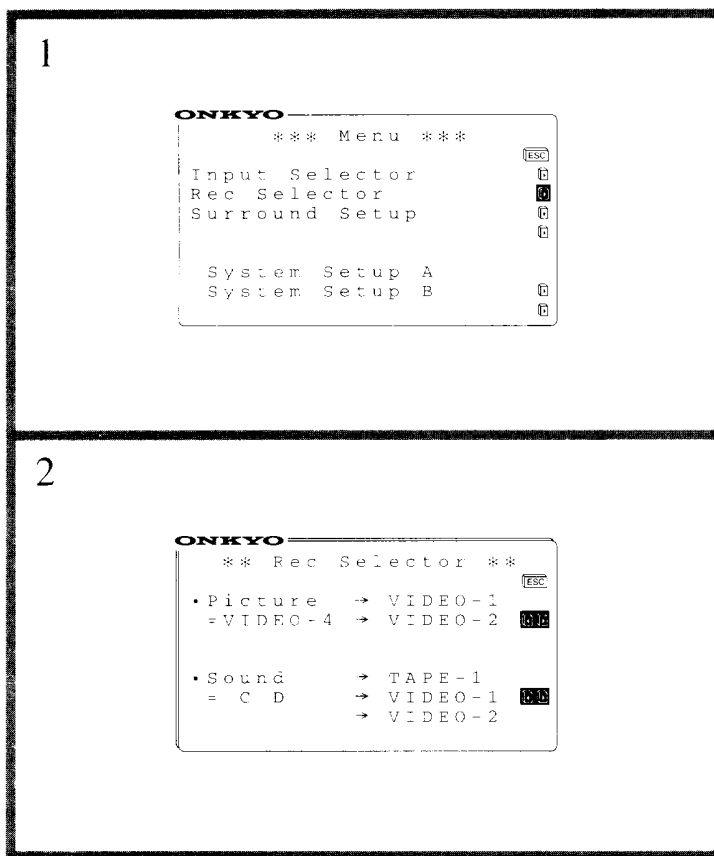
Listening to or watching a source while recording a different source

Using the remote controller to set parameters on-screen:

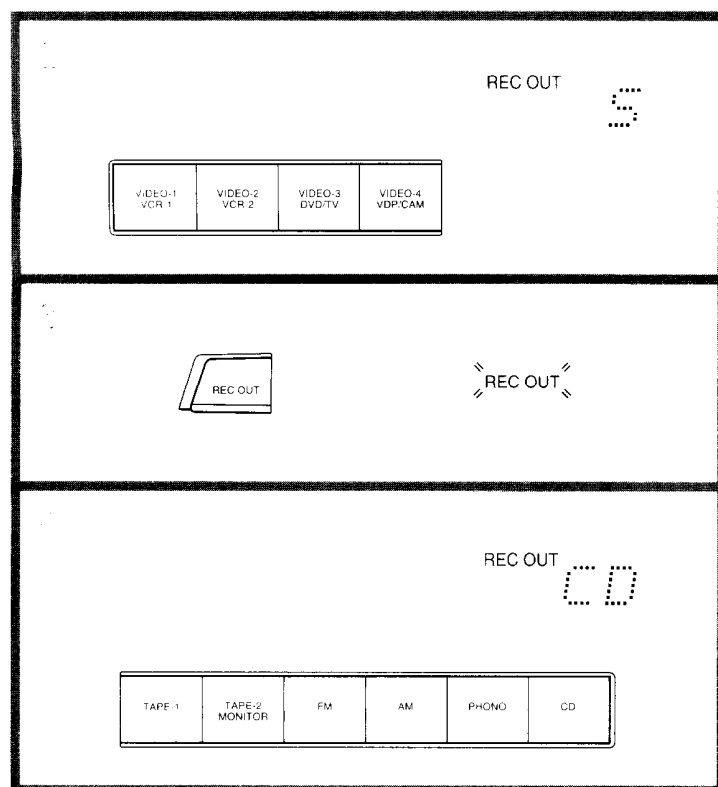
1. Press the ENTER button to display the Menu screen.
Move the cursor to Rec Selector and press the ► cursor button.
The Rec Selector screen appears.
2. Move the cursor to Picture and/or Sound and press the ◀ or ▶ cursor button to select the desired source on the left side of the screen.
The components that can record it appears on the right side.
3. Start recording on the recording component, then start playing the selected source.
4. To select the source that you wish to listen to or watch, move the cursor to Input Selector in the Menu screen. Press the ► cursor button to display the Input Selector screen, then select a different source.
Refer to "Listening to your favorite source" on pages 29 and 30 for more details on selecting the source that you wish to listen to or watch.

NOTE:

- When you are recording from an FM or AM station while listening to a different sound source, the station frequency and preset number and group appear for 3 seconds, then the display for the selected listening source appears.

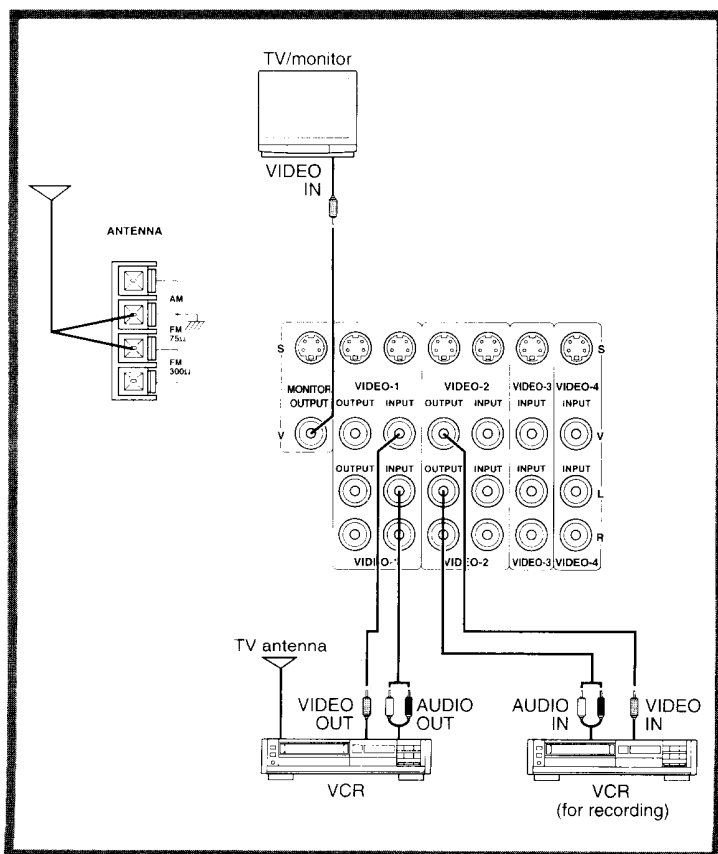


Recording a source



Using the receiver:

- To record different video and audio sources to a destination VCR, make sure that the "S" (source) appears in the right corner of the display, and then select the video source using the input selector buttons.
- Press the REC/PAUSE button on the destination VCR.
- Press the REC OUT button.
The REC OUT indicators flashes for eight seconds.
- While the REC OUT indicator is flashing, select the audio source using the input selector buttons.
The selected music source is indicated on the display. For example, "CD".
- Start recording on the destination VCR, and then start playback on the video and audio sources.
The video and audio sources are recorded by the destination VCR.
- Use the input selector buttons to select the source that you wish to listen to or watch.
Refer to "Listening to your favorite source" on pages 29 and 30 for more details.

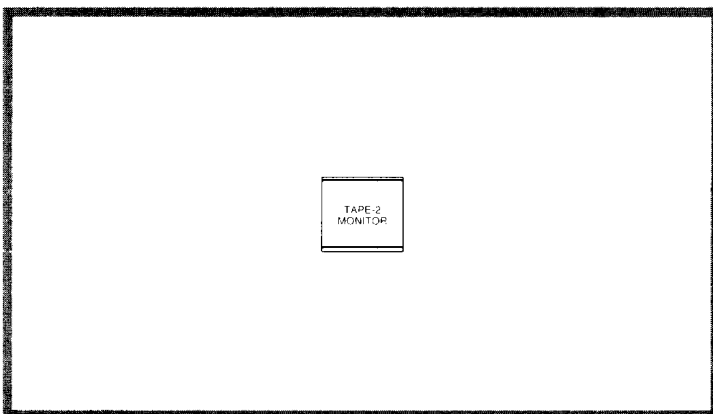
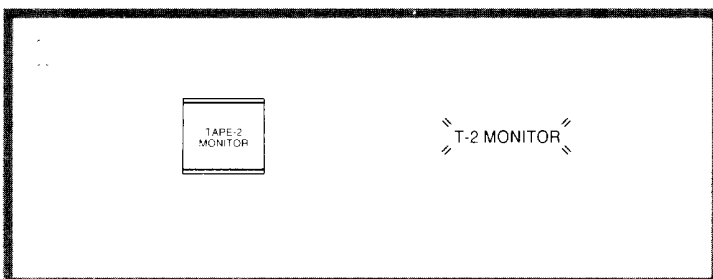
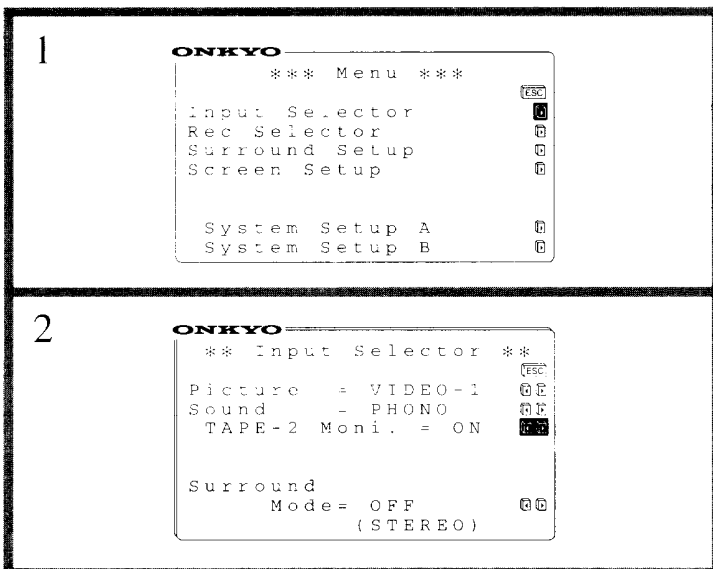
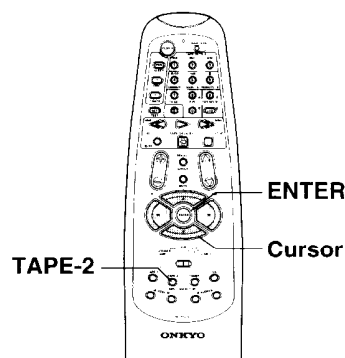
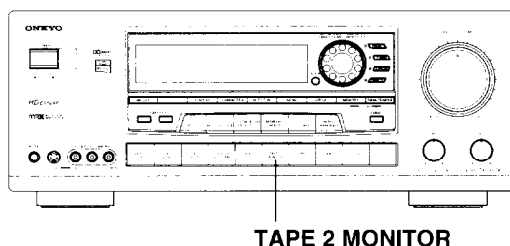


Playing back and recording a TV picture with FM/CABLE TV sound

You can record a TV broadcast with a simulcast FM broadcast, using two VCRs.

1. Receive the TV broadcast using the VCR tuner connected to the VIDEO-1 INPUT.
2. Press the VIDEO-1 input selector button on the TX-DS747 to select the VCR that will be used to tune in the TV broadcast.
3. Press the FM input selector button and tune in the FM simulcast by referring to "Tuning broadcasting stations" on page 32 or "Recalling preset stations" on pages 34 and 35 for details.
The picture will be sent to the TV/monitor and the FM stereo sound will be sent to the speakers.
4. To record the TV picture with FM sound, begin recording on a VCR connected to VIDEO-2 OUTPUT.
You can monitor the program while recording.

Using TAPE-2 MONITOR



Playing back using TAPE-2 MONITOR

Using the remote controller to set parameters on-screen:

1. Press the ENTER button to display the Menu screen. Move the cursor to Input Selector and press the ► cursor button. The Input Selector screen appears.
2. Move the cursor to TAPE-2 Moni. and press the ◀ or ► cursor button to select ON.
3. Follow the operating instructions for the TAPE-2 tape deck to start playback. Only the sound from the TAPE-2 tape deck can be heard, even if other sources are selected for Picture or Sound.

Using the receiver or remote controller:

Press the TAPE-2 MONITOR button.

The T-2 MONITOR indicator lights up on the display.

Follow the operating instructions for the TAPE-2 tape deck to start playback.

- If you are not using the component connected to the TAPE-2 connectors, make sure that the T-2 MONITOR indicator is off. Otherwise you won't be able to listen to other sources.

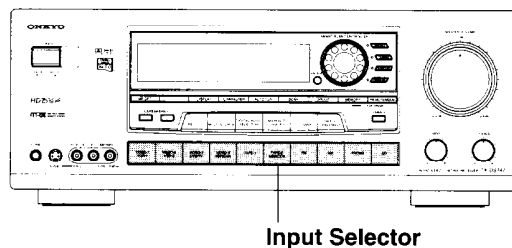
Using a graphic equalizer

1. Connect the graphic equalizer to the TAPE-2 connectors on the rear panel of the TX-DS747.
2. If a second tape deck is used, connect it to the tape deck connectors on the graphic equalizer.
3. Press the TAPE-2 MONITOR button, or set the TAPE-2 Moni. parameter in the Input Selector screen to ON. The T-2 MONITOR indicator lights up on the display.
4. Follow the operating instructions for the graphic equalizer. To record an equalized signal, use the tape deck connected to the equalizer.

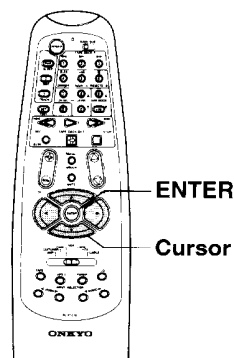
CAUTION:

- Do not select a Surround mode when using the equalizer. Otherwise, it will result in distortion and possible damage to the Surround decoder circuitry.

Using TAPE-2 MONITOR



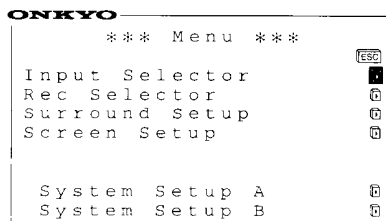
Input Selector



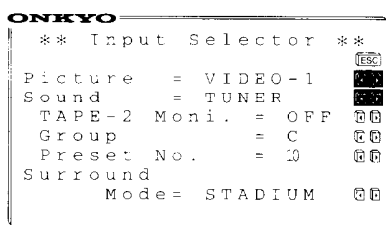
ENTER

Cursor

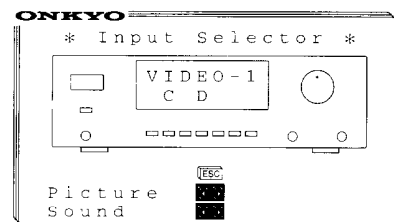
1



2



3



Recording using TAPE-2 MONITOR

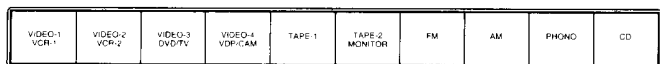
If a tape deck is connected to the TAPE-2 connectors and a source other than TAPE-2 is selected, you can record the sound from the selected source.

Using the remote controller to set parameters on-screen:

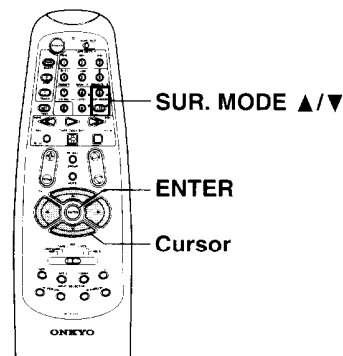
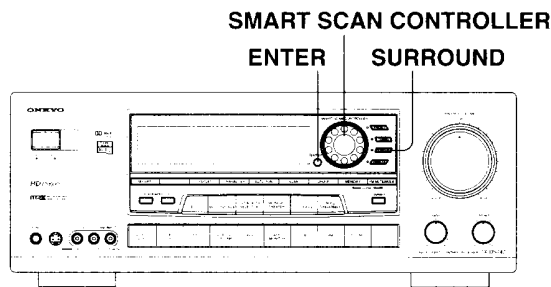
1. Press the ENTER button to display the Menu screen. Move the cursor to Input Selector and press the ► cursor button. The Input Selector screen appears.
 2. Move the cursor to Sound and press the ◀ or ▶ cursor button to display the Picture and Sound screen of Input Selector.
 3. Press the ◀ or ▶ cursor button to select the desired Sound source, and then move the cursor over [ESC] and press the ENTER button.
 4. Start recording using the TAPE-2 tape deck, then start playing the selected source. Refer to the tape deck instruction manual for more details.
- If OFF is selected for the TAPE-2 Moni. parameter in the Input Selector screen, you will hear the sound from the source.
 - If a 3-head tape deck connected to the TAPE-2 connectors is used for recording, set the TAPE-2 Moni. parameter to ON to listen to the sound that was just recorded.

Using the receiver:

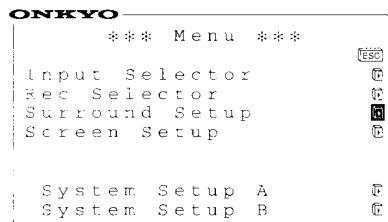
1. Press an input selector button to select the source to be recorded.
 2. Start recording using the TAPE-2 tape deck, then start playing the selected source. Refer to the tape deck instruction manual for more details.
- If the T-2 MONITOR indicator in the display is not lit, you will hear the sound from the source.
 - If a 3-head tape deck connected to the TAPE-2 connectors is used for recording, press the TAPE-2 MONITOR button to turn on the T-2 MONITOR indicator and listen to the sound that was just recorded.
 - Set the recording level with the controls on the recording tape deck.



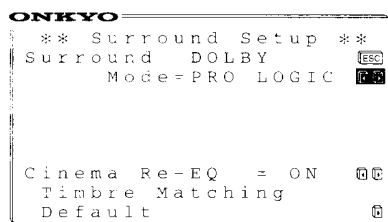
Using the Surround mode



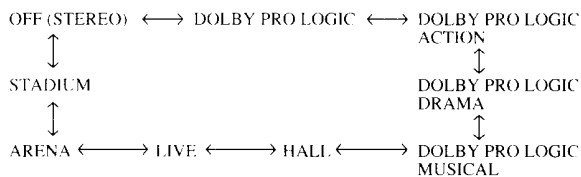
1



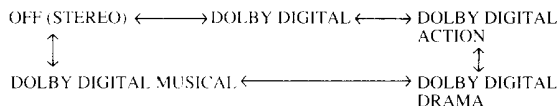
2



Surround Mode sequence:



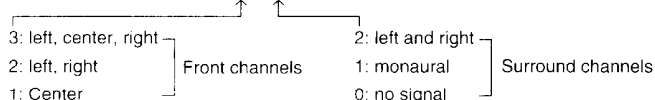
When a Dolby Digital source is played:



- HALL, LIVE, ARENA and STADIUM modes are not available during playback in DOLBY DIGITAL Surround mode.
- The DOLBY DIGITAL indicator on the front display will illuminate when a Dolby Digital Surround signal is present, even if the surround mode has been set to OFF (STEREO). Be sure the surround mode is set to DOLBY DIGITAL if you wish to use this type of surround sound.

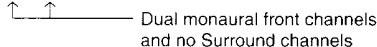
Example 1:

VIDEO-4 ch3/2



Example 2:

VIDEO-4 ch1+1



Selecting a Surround mode

Before using a Surround mode, make sure the System Setup parameters have been set. If the parameters have been set once, it is not necessary to set them again.

The Dolby Digital Surround mode is used to decode media such as laser discs bearing the mark and Dolby Digital (AC-3) broadcasts. With the Dolby Surround mode, video tapes and laser discs bearing the trademark are decoded to reproduce the multi-channel Surround sound of a movie theater.

Using the remote controller to set parameters on-screen:

1. Press the ENTER button to display the Menu screen. Move the cursor to Surround Setup and press the ► cursor button.

The Surround Setup screen appears.

2. Press the ◀ or ▶ cursor button to select the desired Surround Mode.

With each press of a button, the mode changes in the sequence shown at left.

If DOLBY PRO LOGIC is selected during playback of a DOLBY DIGITAL (AC-3) source, the Surround mode automatically changes to DOLBY DIGITAL and DOLBY DIGITAL indicator lights up on the display.

In addition, "ch" followed by a number such as "3/2", as shown example, appears in the main unit's multi-function display to indicate which of the three front channels and two Surround channels are available for sound output.

3. Press the ▲ or ▼ cursor button to select a parameter, and then press the ◀ or ▶ cursor button to either select a setting or display the screen for the selected parameter. When a screen is displayed, press the ◀ or ▶ cursor button to select a setting.

Each mode has a number of parameters which can be used to adjust the sound. (Refer to page 46 for more details.)

- After playing a source in DOLBY DIGITAL Surround mode, wait 15 seconds before playing the same source component in a different Surround mode.

Using the receiver to set parameters:

1. Press the SURROUND button to turn on the SURROUND indicator.

Rotate the SMART SCAN CONTROLLER toward the right or left to select the desired Surround mode.

Surround modes appear sequentially.

- Using the remote controller, press the SUR. MODE ▲ or ▼ button to select the desired Surround mode.

2. Press the PARAMETER button to turn on the PARAMETER indicator.

Rotate the SMART SCAN CONTROLLER to the left until "Surround Setup" appears on the display.

3. Use the ENTER button to select a parameter, then use the SMART SCAN CONTROLLER to select the appropriate settings.




- Refer to the Parameter chart on page 47 for the order in which the parameters will appear.

- The parameter name appears on the display for 5 seconds. If it disappears, repeat step 3.

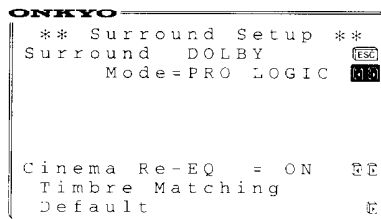
- Repeat step 3 to adjust the parameters.

Using the Surround mode

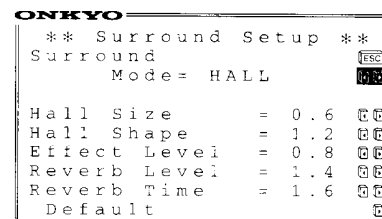
Various parameters are available in the Surround mode screens as shown below.

- When one screen page cannot accommodate all parameters,  appears in the bottom right-hand corner of the screen. Press the  cursor button on the remote controller to move the cursor to . The next screen page displays more parameters.
- Refer to "Setting the Surround mode parameters" on page 46 for more details on each of the Surround mode parameters.

Dolby Pro Logic



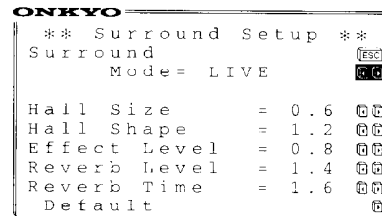
Hall



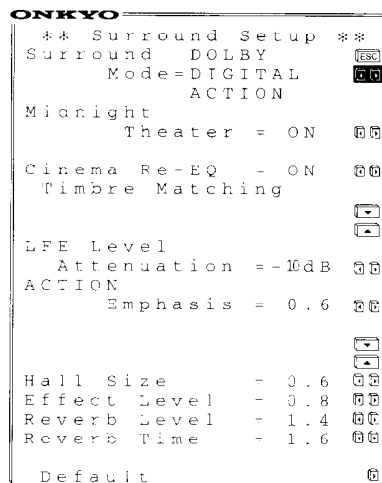
Dolby Digital (AC-3)



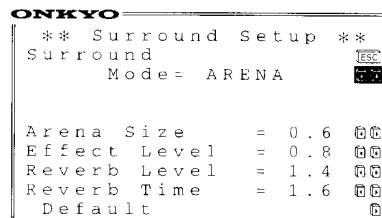
Live



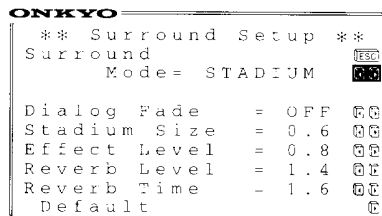
Dolby Pro Logic/Dolby Digital (AC-3) Action, Drama or Musical



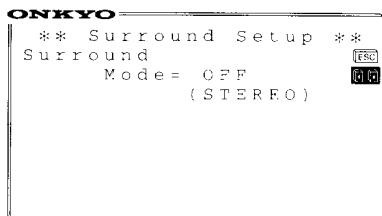
Arena



Stadium



Off



Using the Surround mode

Setting the Surround mode parameters

LFE (Low Frequency Effect) Level Attenuation

If the reproduced bass is too loud, set this parameter to “-10 dB” to decrease the Low Frequency Effect in the low-frequency channel by 10 dB.

- The LFE Level Attenuation function is available only in Dolby Digital (AC-3) Surround mode.

Cinema Re-Equalization

Motion pictures are produced on the assumption that they will be shown at a large cinema. If they are shown in a small room, the high-frequency range sound will be raised, resulting in an uncomfortable sound. If your system is placed in a small room, set this parameter to “ON” to reproduce an optimal sound for the home theater system.

- The Cinema Re-EQ function is available only in Dolby Digital and Dolby Pro Logic Surround modes.

Timbre Matching

The sound you hear from the front channels (left, center, and right) usually appears slightly different from the sound you hear from the surround channels. This often results in an incohesive front/back soundfield. The error is simply due to the different paths that sounds take to reach our ears. Timbre Matching equalization compensates for the difference, and maintains equal tonal color throughout the soundfield.

Press the Re-EQ/Timbre Match button to turn on the Re-EQ and timbre matching functions.

- The Timbre Matching function is available only in Dolby Digital and Dolby Pro Logic Surround modes.

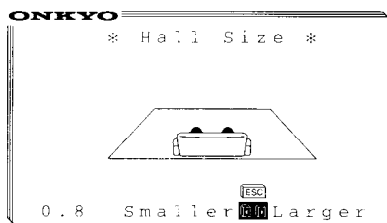
*Re-Equalization and Timbre Matching and the ‘Re-EQ/TM’ logo are trademarks of Lucasfilm Ltd. Manufactured under license of Lucasfilm Ltd. U.S. patent numbers 5,043,970; 5,189,703; 5,222,059.

ACTION/DRAMA/MUSICAL Emphasis

These parameters bring out even more of the ACTION, DRAMA or MUSICAL effects. The emphasis can be set between 0.4 and 1.6.

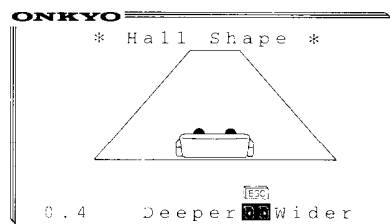
Hall Size/Arena Size/Stadium Size

These parameters allow you to set the size of the hall/arena/stadium. The size can be selected from seven settings between 0.4 and 1.6.



Hall Shape

You can select from seven hall shape settings between 0.4 and 1.6, indicating the ratio of hall breadth to length. Settings of 0.4 to 0.8 simulate rectangular shapes, 1.0 simulates a square shape, and 1.2 to 1.6 simulate oblong shapes.



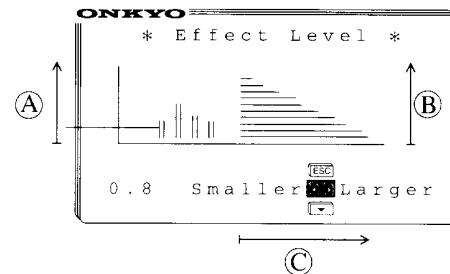
Dialog Fade

When you wish to remove the announcer's voice while watching a sports broadcast, set this parameter to “ON”. It may be difficult or impossible to remove the announcer's voice from some sources.

- The Dialog Fade function is available only in STADIUM Surround mode.

Effect Level, Reverb Level, and Reverb Time

By adjusting the level of the initial reflections and reverberation in sound from a recording, it is possible to create the illusion of actually being in a stadium without leaving your living room. For each parameter, you can select from seven settings between 0.4 and 1.6.



- Ⓐ **Effect level:** Adjusts the initial reflection level. Increasing the setting increases the effect sound level.
- Ⓑ **Reverb level:** Adjusts the level of only the reverb (not the initial reflections). Increasing the setting makes the “mountain” higher and increases the reverb sound level.
- Ⓒ **Reverb Time:** Adjusts the time taken for the reverberation to decay completely. Increasing the setting widens the base of the “mountain” and lengthens the reverb time.

Midnight Theater

If you must play a movie at a low volume at night, set this parameter to “ON” to make the dynamic range of the reproduced sound narrower for an easy-to-hear sound.

The Midnight Theater function works only with source material that contains the necessary Dolby Digital information.

- The Midnight Theater function is available only in Dolby Digital (AC-3) Surround mode.

Default

Move the cursor to this parameter and press the ► cursor button on the remote controller to display the YES and NO settings. Move the cursor to YES and press the ◀ cursor button to return all parameters in the displayed Surround Setup screen to their default settings. Move the cursor to NO and press the ► cursor button to leave the parameters unchanged.

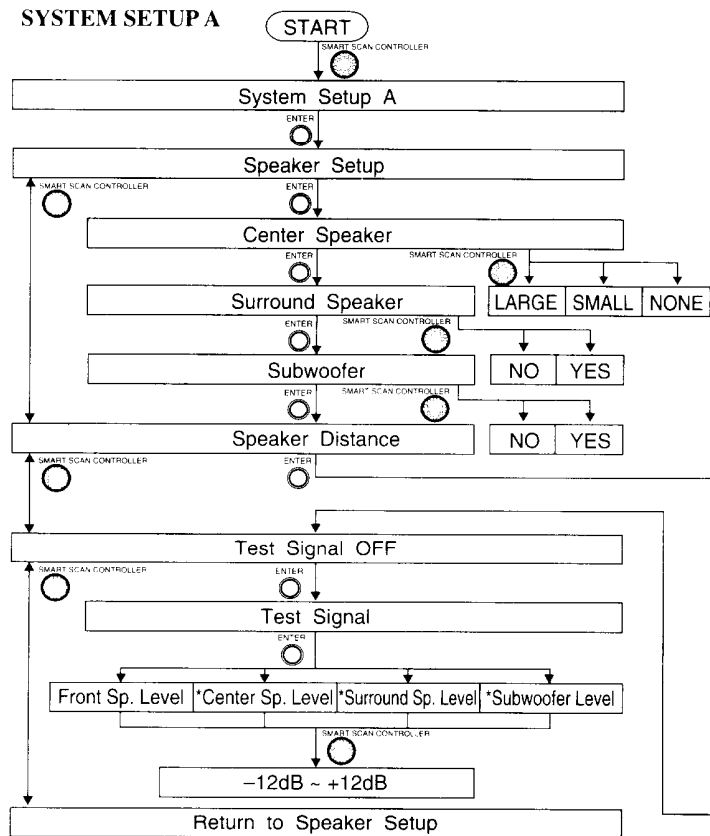
Default values

Parameter	Default values
LFE Level Attenuation	0 dB
Cinema Re-EQ/Timbre Matching	OFF
ACTION/DRAMA/MUSICAL Emphasis	1.0
Hall/Arena/Stadium Size	1.0
Hall Shape	1.0
Dialog Fade	OFF
Effect Level	1.0
Reverb Level	1.0
Reverb Time	1.0
Midnight Theater	OFF

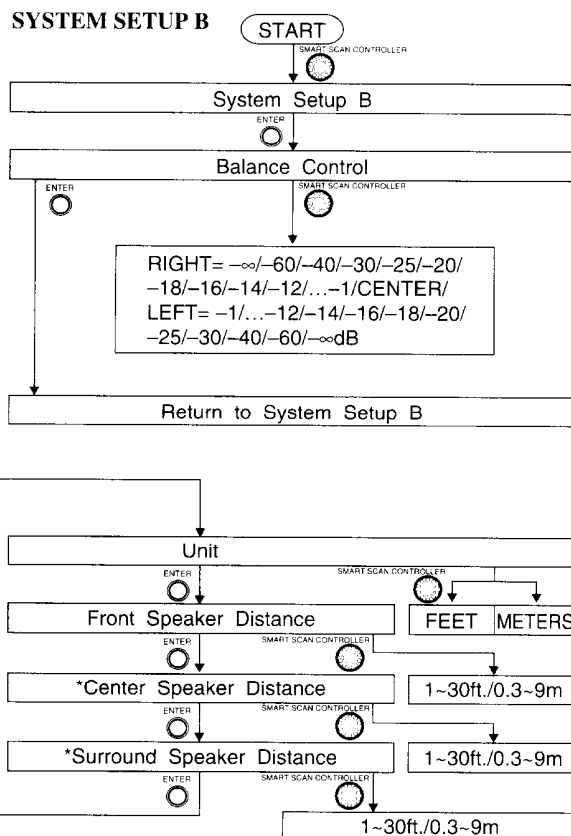
TX-DS747 Parameters

This chart shows how the display changes when the ENTER buttons are pressed. Rotating the SMART SCAN CONTROLLER clockwise or counterclockwise in each display can change the value and condition of whichever parameter is displayed. The following parameters appear in the multi-function display on the front panel when the PARAMETER button is ON.

SYSTEM SETUP A

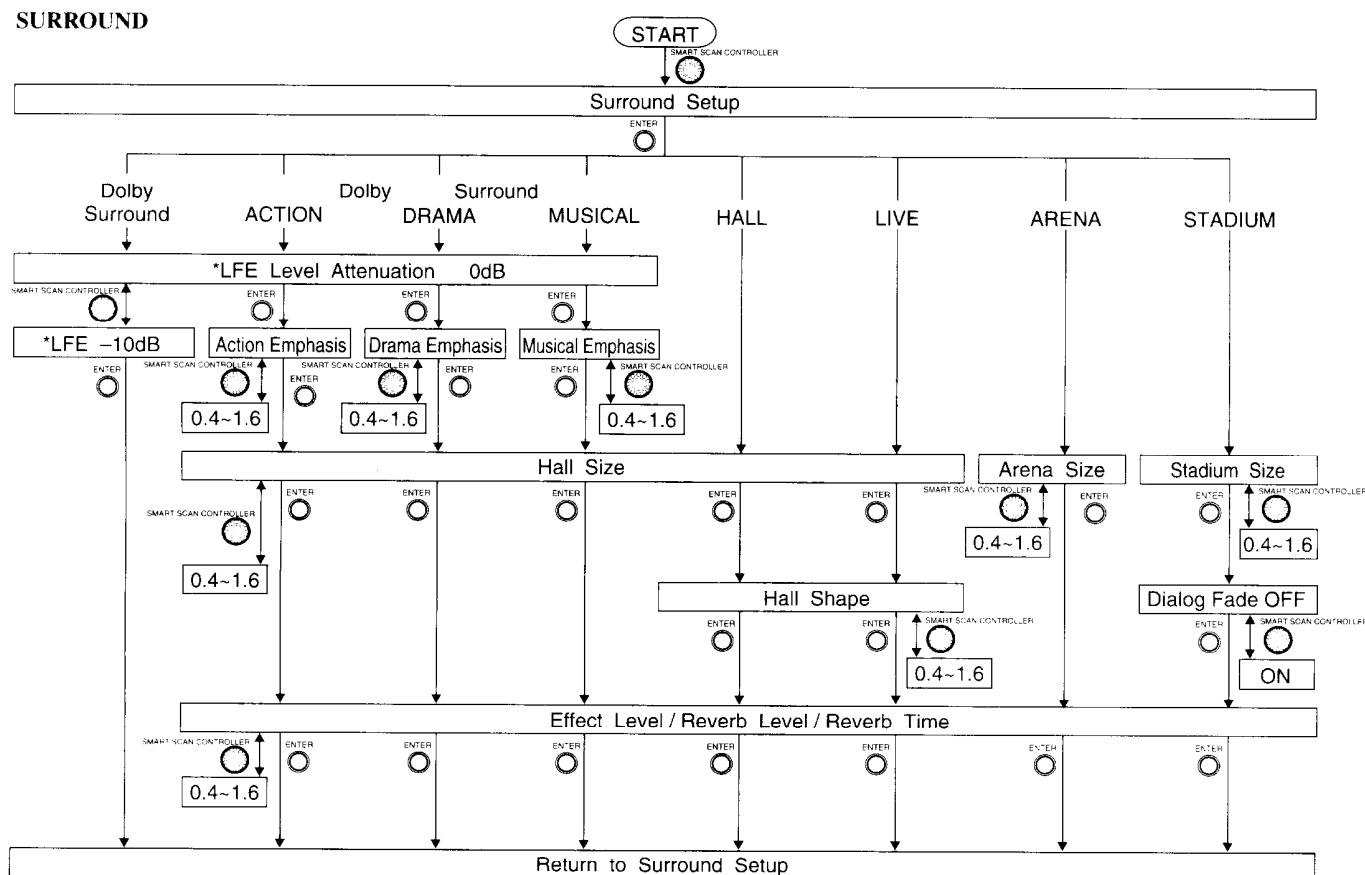


SYSTEM SETUP B



* indicates the parameters that are skipped when the corresponding Center Speaker, Surround Speaker, and Subwoofer parameters are set to NONE or NO.

SURROUND



* indicates the parameter that appears only with the Dolby Digital Surround mode. With the Dolby Pro Logic Surround mode, this parameter is skipped.

Troubleshooting guide

If a problem occurs, adjust the controls on the TX-DS747 front panel to confirm that the remote controller is not malfunctioning or has worn out batteries.

Trouble	Cause	Remedy
Power, then immediately no power.	<ul style="list-style-type: none"> The amplifier protection circuitry has been activated. 	<ul style="list-style-type: none"> Contact your Onkyo Service Center.
No power.	<ul style="list-style-type: none"> Power cord is disconnected. There is external noise in the computer circuits of the TX-DS747. AC fuse blown. 	<ul style="list-style-type: none"> Connect the power cord. Turn the power off and then on again, or remove the AC plug from the outlet. Contact your Onkyo Service Center.
Power but no sound.	<ul style="list-style-type: none"> The T-2 MONITOR indicator is lit. The MUTE indicator is lit. The connections are bad or incorrect. 	<ul style="list-style-type: none"> Press the TAPE-2 MONITOR button. Press the MUTE button on the remote controller. Check the input leads, speaker leads, pin plugs, etc.
No sound or very minimal sound from the center speaker.	<ul style="list-style-type: none"> The speaker wires are disconnected. Surround mode is set to HALL, LIVE, ARENA, STADIUM, or OFF. The Center Speaker Setup is set to NONE. 	<ul style="list-style-type: none"> Check the connection between the amplifier and the speaker. When HALL, LIVE, ARENA, or STADIUM is selected for the Surround mode, only the effect sound will be output from the center speaker. The sound level will be less compared to the sound level when the DOLBY DIGITAL/PRO LOGIC ACTION, DRAMA, MUSICAL is selected. Set the Center Speaker Setup to SMALL or LARGE.
Hum or low-frequency noise.	<ul style="list-style-type: none"> Poor or no input ground. Poor or no phono motor ground. The input and output cables are positioned incorrectly. 	<ul style="list-style-type: none"> Check the outer conductor of input plugs. Check for a proper ground connection. Adjust the placement of the cable to reduce hum.
Howling when the volume is turned up.	<ul style="list-style-type: none"> The turntable and speakers are too close to each other. 	<ul style="list-style-type: none"> Move them farther away from each other.
Rough or scratchy sound; high range is not clear.	<ul style="list-style-type: none"> The pick-up stylus is worn. The stylus tip is dirty. The treble level is too high. 	<ul style="list-style-type: none"> Replace it. Clean it. Decrease the treble.
AM stations cannot be received.	<ul style="list-style-type: none"> The AM loop antenna is not attached. 	<ul style="list-style-type: none"> Connect the supplied AM loop antenna to the AM antenna terminals.
Buzzing noise on AM (particularly at night or with weak stations).	<ul style="list-style-type: none"> There is noise from other electrical equipment, such as fluorescent lamps. 	<ul style="list-style-type: none"> Move the AM loop antenna to a different position. Connect an outdoor AM antenna.
High-pitched noise or buzzing noise on AM.	<ul style="list-style-type: none"> There is noise from the TV. 	<ul style="list-style-type: none"> Place the AM loop antenna as far as possible from the TV. Move the unit away from the TV.
Crackling noise on AM or FM.	<ul style="list-style-type: none"> The noise is caused by turning a fluorescent lamp on and off. The noise is caused by an automobile ignition. 	<ul style="list-style-type: none"> Move the antenna as far as possible from the fluorescent lamp. Install an FM outdoor antenna as far as possible from the road. Change the position or direction of the outdoor antenna.
FM TUNED and STEREO indicators light, but sound is distorted and stereo separation is bad.	<ul style="list-style-type: none"> The station signal is too strong. Multiple reflection of the radio waves because of tall buildings or mountains. 	<ul style="list-style-type: none"> Use a T-shaped antenna. Use an antenna which has better directivity and select a frequency with less distortion.
FM TUNED and STEREO indicators flicker and a hiss is heard on FM.	<ul style="list-style-type: none"> The station signal is too weak. The stereo FM broadcasts cover only about half the distance of an ordinary broadcast. 	<ul style="list-style-type: none"> Install an outdoor FM antenna. Adjust the position or direction of the outdoor antenna.
Preset station is not recalled.	<ul style="list-style-type: none"> The power cord has been unplugged for an extended period of time. 	<ul style="list-style-type: none"> The memory contents are lost. Store all stations again.
Multi-Room Remote System does not operate.	<ul style="list-style-type: none"> The connections are incorrect. The MR OFF indicator is lit. The remote controller is not aimed at the sensor. The path between the remote controller and the sensor is blocked. 	<ul style="list-style-type: none"> Check the connections. Press the MR OFF button. (The MR OFF indicator should go off.) Aim the remote controller at the TX-DS747 remote control sensor. Remove the object blocking the path to the sensor.
Front panel controls function but remote controller does not.	<ul style="list-style-type: none"> There are no batteries in remote controller. The batteries are worn out. 	<ul style="list-style-type: none"> Insert batteries. Replace batteries.
Also refer to the respective instruction manuals of the other components, e.g. video disc player, video cassette recorder, or TV/monitor.		

Troubleshooting guide

NOTE:

The tuning steps by which the tuned frequency changes on each band have been set at the factory to the proper value for the country where the unit is to be sold. If you use the unit in a country where a different tuning step is required or if the broadcast frequencies in your country change so that you cannot tune in radio stations accurately, contact your authorized Onkyo Service Center.

This device employs a microcomputer to perform various functions and operations. If interference generated by an external power supply, radio waves, or other electrical source results in an accident which causes the specified operations and functions to operate abnormally, follow the procedure below to reset the unit.

1. While hold down the CD button, then press the POWER (or SYSTEM) button.
2. After "Clear" is displayed, the preset memory and parameters stored in the memory, such as those for the Surround mode, are initialized and will return to the factory default settings.

Problem with the RC-P101S/P201S remote controller

The remote controller does not operate.	<ul style="list-style-type: none">• First, try adjusting the controls on the main unit's front panel. If the unit cannot be operated, the problem is in the main unit and not the remote controller.• If the batteries are weak, replace them.• Press the appropriate INPUT SELECTOR button on the remote controller to select your desired source and start operating it.
The codes programmed by the button of RC-P101S/P201S have been "forgotten".	<ul style="list-style-type: none">• If the batteries are taken out of the unit for more than one hour, programmed codes will be lost. In this case, please program the codes once again.
Some or all buttons on the video component don't function.	<ul style="list-style-type: none">• Depending on the video component's manufacturer, some buttons on the remote controller may not work. In this case, use the remote controller that came with the video component.

Questions	Answers
Q: Why can't I get On-screen displays on my TV/monitor?	A: Make sure you have a single RCA video cable running from the monitor output connector on the back of the TX-DS747 to the EXT. 1 or video-1 input of your TV/monitor. You must make the input selection on the TV/monitor. (Many customers assume that the TX-DS747 will switch the TV/monitor mode automatically.)
Q: How do I get just my TV sound through my stereo?	A: On the back of your TV/monitor you should see AUDIO OUT left and right RCA jacks. Run a standard RCA cable from those outputs to the VIDEO-3 INPUT on the TX-DS747. Do not use the PHONO input.
Q: Why is there no sound coming from my unit? It worked fine yesterday and there is some music faintly in the background.	A: Check to see that the T-2 MONITOR indicator is not lit.

Specifications

AMPLIFIER SECTION

Power Output

U.S. & Canadian models:

Stereo mode

Front L/R channels: **90 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.**

Surround mode

Front L/R and Center channels: **80 watts per channel, min. RMS at 8 ohms, three channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.**

Surround L/R channels: **40 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.**
(Rear only driven)

Other area models:

Stereo mode

Front L/R channels: 2 × 110 watts at 6 ohms, 1 kHz (DIN)

Surround mode

Front L/R and Center channels: 3 × 95 watts at 6 ohms, 1 kHz (DIN)

Surround L/R channels: 2 × 50 watts at 6 ohms, 1 kHz (DIN)
(Rear only driven)

IM Distortion: 0.08% at rated power (Front)

Damping Factor: 60 at 8 ohms (Front)

Input Sensitivity and Impedance

Phono: 2.5 mV/50 kohms

CD/Tape Play: 150 mV/50 kohms

Output Level and Impedance

Tape Rec: 150 mV/2.2 kohms

Pre out: 1 V/ 470 ohms

Phono Overload: 120 mV RMS at 1 kHz, 0.5% T.H.D.

Frequency Response: 20 Hz to 30 kHz, ±0.5 dB

RIAA Deviation: 20 Hz to 20 kHz, ±0.8 dB

Tone Control

Bass: ±10 dB at 50 Hz

Treble: ±10 dB at 10 kHz

Signal-to-Noise Ratio

Phono: 80 dB (IHF A, 5 mV input)

CD/Tape: 100 dB (IHF A)

Muting: —∞ dB

VIDEO SECTION

Television format

U.S. & Canadian models: NTSC

Other models: NTSC/PAL

Input Sensitivity and Impedance

Video (Composite): 1 Vp-p/75 ohms

S-Video (Y signal): 1 Vp-p/75 ohms

S-Video (C signal): 0.28 Vp-p/75 ohms

Output Level and Impedance

Video (Composite): 1 Vp-p/75 ohms

S-Video (Y signal): 1 Vp-p/75 ohms

S-Video (C signal): 0.28 Vp-p/75 ohms

DIGITAL SECTION

Digital Input Sampling Frequency: 32 kHz, 44.1 kHz, 48 kHz

Input Sensitivity Impedance

Coaxial: 0.5 Vpp/75 ohms

AC-3 RF: 0.4 Vpp/75 ohms (other than U.S. & Canadian model)

TUNER SECTION

FM

Tuning Range: 87.5 — 108.0 MHz (50 kHz steps)

Usable Sensitivity

Mono: 11.2 dBf, 1.0 μV (75 ohms)

Stereo: 17.2 dBf, 2.0 μV (75 ohms)

50 dB Quieting Sensitivity

Mono: 17.2 dBf, 2.0 μV (75 ohms)

Stereo: 37.2 dBf, 20 μV (75 ohms)

Capture Ratio:

1.5 dB

Image Rejection Ratio

U.S. & Canadian models: 40 dB

Other area models: 85 dB

IF Rejection Ratio: 90 dB

Signal-to-Noise Ratio

Mono: 76 dB

Stereo: 70 dB

Alternate Channel Attenuation: 55 dB

Selectivity: 50 dB (DIN)

AM Suppression Ratio: 50 dB

Total Harmonic Distortion

Mono: 0.1%

Stereo: 0.2%

Frequency Response: 30 Hz — 15 kHz, ±1.0 dB

Stereo Separation: 45 dB at 1 kHz

30 dB at 100 Hz — 10 kHz

Muting level: 17.2 dBf

AM

Tuning Range

U.S. & Canadian models: 530—1,710 kHz (10 kHz steps)

European & Australian models: 522—1,611 kHz (9 kHz steps)

Worldwide models: 531—1,602 kHz (9 kHz steps),
530—1,710 kHz (10 kHz steps)

Usable Sensitivity: 30 μV

Image Rejection Ratio: 40 dB

IF Rejection Ratio: 40 dB

Signal-to-Noise Ratio: 40 dB

Total Harmonic Distortion: 0.7%

GENERAL

Power Supply

U.S. & Canadian models: AC 120 V, 60 Hz

European & Australian models: AC 230 V, 50 Hz

Worldwide models: AC 220-230 V and 120 V switchable,
50/60 Hz

Power Consumption

U.S. & Canadian models: 4.2 A

Other area models: 400 W

Dimensions (W × H × D): 435 × 175 × 390 mm

17-1/8" × 6-7/8" × 15-3/8"

Weight: 13 kg, 28.7 lbs.

REMOTE CONTROL

U.S. & Canadian models: RC-P101S

Other area models: RC-P201S

Transmitter: Infrared

Signal range: Approx. 5 meters, 16 ft.

Power supply: Two "AA" batteries (1.5 V × 2)

Specifications and features are subject to change without notice.

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